

Policy and Program Implications of the
Matching Grants Program in the Philippines

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ABBREVIATIONS

ANE OR/TA	Asia and the Near East Operations Research/Technical Assistance
BHS	Barangay Health Station
BHW	Barangay Health Worker
BNS	Barangay Nutrition Scholar
BSPO	Barangay Supply Point Officer
BTL	Bilateral Tubal Ligation
CBMIS	Community-based Management and Information System
CBMO	Community-based Managed and Owned Information System
CHO	City Health Office
CPR	Contraceptive Prevalence Rate
DMPA	Depo Medroxy-Progesterone Acetate
DOH	Department of Health
EPI	Expanded Program on Immunization
FIC	Fully Immunized Children
FIM	Fully Immunized Mother
FHSIS	Field Health Surveillance and Information System
FP	Family Planning
IEC	Information, Extension and Communication
IUD	Intra Uterine Device
LGU	Local Government Unit
LPP	Local Government Performance Project
MCH	Maternal and Child Health
MGP	Matching Grants Program
MHC	Main Health Center
MHO	Municipal Health Office
MOA	Memorandum of Agreement
MSH	Management Sciences for Health
MWRA	Married Women of Reproductive Age
NDHS	National Demographic and Health Survey
NFP	Natural Family Planning
NGO	Nongovernmental Organization
NTP	National Tuberculosis Program
PHO	Provincial Health Office
PMC	Pre-marital Counseling
RHU	Rural Health Unit
RTA	Regional Technical Assistant
TBA	Traditional Birth Attendant
TT	Tetanus Toxoid
TT2+	Tetanus Toxoid Two Plus
USAID	U.S. Agency for International Development
VAC	Vitamin A Supplementation Coverage
VSS	Voluntary Surgical Sterilization
WRA	Women of Reproductive Age

Introduction

In 1999, the Department of Health, with support from USAID and technical assistance from Management Sciences for Health (MSH), implemented the Matching Grants Program (MGP) as a component of the Local Government Performance Program (LPP). The MGP aims to improve the capability of municipalities and component cities to expand service delivery, and to achieve significant increases in rates of fully immunized children (FIC), vitamin A supplementation (VAC), tetanus toxoid immunization for women (TT2+), as well as in the use of family planning methods (CPR), especially modern methods.

As an approach to expanding service coverage, the MGP was developed with the following features: (1) it targets mid-size municipalities and component cities, initially those with a population of 100,000 and above, where primary health care services are provided; (2) it employs a “grantee-friendly” application process, with the Local Government Unit (LGU) determining its own goals and program direction; (3) it provides flexible funding of up to P500,000¹ and access to technical assistance; and (4) it encourages LGUs to increase fund allocation and expenditures for MGP-assisted programs through a “match” or counterpart funding.

Cities had to meet established criteria in order to be selected to participate in the MGP program, including: (1) clearly defined funding match, activities and budget; (2) activities designed to increase service utilization among target clientele; (3) activities that will result in direct increases in coverage; and (4) discrete activities with a reasonable chance of obtaining measurable impacts within 12 months or less.

MGP Evaluation Study

Upon the request of the USAID Mission, the Frontiers in Reproductive Health Program worked closely with Management Sciences for Health to conduct an evaluation of the MGP during 1999-2000. This activity falls under USAID’s IR 1: Testing innovative solutions to service delivery problems, supportive of USAID’s Strategic Objective 3: Improving Maternal and Child Health.

Two types of evaluations were carried out: performance and impact. Program performance was measured (using the “input-process-output-outcome” framework) through careful monitoring of MGP inputs, processes, and outputs using program-based data. Outcomes were evaluated using population-based data in a before-after comparison group design.

The performance evaluation was conducted in four MGP areas, namely: San Jose del Monte, Bulacan; Dasmariñas, Cavite; Tacloban City, Leyte; and Digos, Davao del Sur. The impact evaluation was conducted in Taytay, Rizal with Binongonan, Rizal serving as the comparison group, and in San Carlos, Negros Occidental, with Cadiz, Negros

¹ The average funding provided to LGUs was about P375,000 or approximately US\$10,000.

Occidental serving as the comparison group. The results of these two sets of evaluations are described in separate reports.²

The purpose of this report is to briefly summarize the results of the evaluations as a springboard for discussing program and policy issues. Specifically, this analysis attempts to draw out the program and policy implications of the findings from the MGP process and impact evaluations. There are two types of lessons to be learned. One is useful to local government authorities and involves lessons for planning and implementing local health interventions that are effective and have large impacts. The second is useful for Department of Health authorities and other policy stakeholders and involves lessons for formulating policies and programs to support local governments in expanding health service coverage in the context of overall health sector reform.

A. Major Findings from the Process (Performance) Evaluation

The process evaluation has uncovered a number of interesting findings with respect to the planning and implementation of interventions designed to expand services and increase coverage in the four areas of concern: fully immunized children (FIC), vitamin A coverage (VAC), tetanus toxoid immunization (TT2+), and contraceptive prevalence rate (CPR).

LGU Capacity for Planning Focused Interventions. With technical assistance from Department of Health and Management Sciences for Health personnel, local government units (LGUs) were able to identify specific demand and service delivery problems in the four program areas, and designed focused interventions to address these problems. For the most part, the LGUs relied on data from the Field Health Surveillance and Information System (FHSIS), the only data available at that time, in analyzing health problems and setting targets. The limitations of FHSIS data for estimating coverage rates of interventions are well known, but these were useful as a starting point. Based on their assessment of services needing significant expansion or improvement, the LGUs chose corresponding interventions. The types of interventions chosen by each MGP participant varied, both in terms of service areas emphasized and specific types of activities to address unmet needs and provide measurable impacts. The activities are shown in Table 1 below.

² See Appendix I and II.

Table 1: MGP Interventions in the Four MGP Evaluation Areas, February 2000

MGP Activities	San Jose Del Monte	Dasmariñas	Tacloban	Digos
CBMIS Implementation	X	X	X	
CBMO				X
Outreach activities (clinic based, community-based, or at work-site)	X	X	X	X
“Mop-up activities” (home-based follow-up services for missed clients)	X	X	X	X
Family planning referrals (IUD and/or VSS)	X	X	X	X
Provision of IUDs to local health workers		X		
Training on IUD Insertion and Removal	X			
TT2+ referrals		X		
TT2+ in pre-marriage counseling			X	X
Training of TBAs on aseptic techniques and referrals for TT and FP		X		
Health and nutritional post				X
Partnership with NGOs in service provision			X	

Source: Costello, Manganar and Mosende (2001: Table 6)

In some cases, the interventions were creative and innovative. For example, Dasmariñas adopted a three-pronged approach to improve TT2+ coverage. These are the Barangay Health Station Expanded Program of Immunization Team approach, home visits to follow-up defaulters, and industrial site visits to provide services to a working and highly mobile population of women. Tacloban, on the other hand, added family planning and TT2+ services to its existing social hygiene clinic and pre-marital counseling services. It also tapped NGOs to expand its service delivery network. Digos also added TT2+ services to its pre-marriage counseling program.

Innovation in Information System in Support of Service Delivery. One major innovation is the application of a new health information technology – the Community-Based Monitoring and Information System (CBMIS). The CBMIS use as a mechanism to identify women in need of family planning services was first introduced by MSH in Pangasinan and Iloilo Cities. FRONTIERS Manila provided technical assistance in

sharpening the CBMIS to be able to address women's unmet needs for spacing and limiting births (including the needs of dissatisfied users drawing from experience in Davao and Pangasinan). The CBMIS, as it has evolved under the MGP, combines information gathering with service delivery. It provides information on clients with unmet needs under the four major health programs (family planning, vitamin A supplementation, FIC and TT2+). These needs were determined during house-to-house visits in the catchment areas by barangay health workers (BHWs). In San Juan Del Monte, Bulacan, an incentive system attracted volunteers to sustain the CBMIS. There they used the CBMIS, together with the call slip system, to give the rural health unit a system for prioritizing service provision. CBMIS information was also presented on a Data Health Board for community use.

Mobilization of New Resources for Health. The MGP funds represented an additional source of funding for health services. The process evaluation found that LGUs were able to generate additional resources, whether financial or in-kind, from cooperating institutions such as the Department of Health and NGOs. For example, to implement Family Health Days in Tacloban, logistical support, medicines and supplies from the Department of Health, the provincial health office, and the GLAXO drug company augmented the local government unit's resources. Active involvement of barangay health workers, service point officers, nutrition scholars and the facilitative efforts of local barangay officials were crucial in community mobilization. NGOs (LEFADO and Marie Stopes Foundation), the city population office, and the Leyte Institute of Technology provided strong partnership in advocacy and service provision.

Outputs and Coverage. Based on program statistics, the performance of the four Matching Grants Program study areas, with respect to outputs, varied by specific intervention. The CBMIS did, in fact, enable workers to reach quite a number of households by identifying eligible populations requiring services. A large proportion of those identified did seek out the needed services, either through outreach activities or through the routine services offered in the study area. The three-pronged approach to TT2+ implemented in Dasmariñas identified and served a number of women eligible for TT2+ injections.

However, based on service statistics (FHSIS), overall performance in the four study areas with respect to improving coverage is mixed. In San Jose del Monte, FIC, VAC and TT2+ coverage have been maintained at their previous levels, and CPR doubled compared to the baseline. In Dasmariñas, while performance in one rural health unit improved dramatically for TT2+, there were large reductions in FIC and VAC coverage. In Tacloban City, Leyte, initial data show some progress in increasing TT2+ coverage based on identified targets (89%). In Digos, Davao del Sur, with only a six-month observation period, TT2+ coverage increased somewhat, but CPR, FIC and VAC coverage fell modestly. These results are based on service statistics (FHSIS) that may not be accurate and may not be comparable between different periods given variable reporting coverage rates and irregular logistics support. Hence, conclusions about impacts should be interpreted with caution. A comparable set of data before and after the intervention based on a survey of the eligible population is needed to determine changes

in actual coverage due to the interventions. This type of data can be found in the impact evaluation described below.

B. Major Findings from the Impact Evaluation

For the impact evaluation, two Matching Grants Program areas and their corresponding comparison sites were studied. The experiment areas were Taytay, Rizal and San Carlos City, Negros Occidental and their respective comparison areas were Binongonan, Rizal and Cadiz, Negros Occidental. The experiment and comparison sites were matched according to the following characteristics: both local government units were required to be from the same province to control for administrative and other forms of support provided at the province level; similar population sizes; same income class; and similar performance indicators on the four outcomes of interest. A survey of the eligible population before and after the intervention provided the data to determine changes in coverage rates or impacts resulting from the MGP interventions.

In Taytay, Rizal the interventions implemented under the MGP grant included the CBMIS; the provision of tetanus toxoid immunizations to eligible mothers of children attending day care centers, to women attending pre-marital counseling at the main health center, and to clients referred by private clinics and by an NGO health facility; and the provision of IUD services to the rural health unit (46% of the Taytay MGP grant was allocated to this last intervention). San Carlos on the other hand, implemented the CBMIS and strengthened their medical outreach program.

The process evaluation, which was a component of the overall impact evaluation of these areas, uncovered a number of implementation difficulties in both MGP areas. In Taytay, not all planned activities were implemented during the evaluation period. In fact, only four of the nine planned MGP interventions had been implemented at the time of the evaluation. Moreover, the provision of vitamin A supplementation in two critical areas could not be distinguished from the regular Department of Health program. There were also problems in service delivery related to insufficient supplies for TT2+ injections. The IUD kits that were purchased through the MGP grant were not yet delivered at the time of the survey. It is not surprising that with these implementation difficulties, the data reveal minimal outputs during the period of observation.

A similar situation was observed in San Carlos. The process evaluation found that several problems occurred during the medical outreach including: an inadequate supply of vaccines due to unanticipated migrant clients in need of services; lack of facilities and trained staff for bilateral tubal ligation referral; and difficulty in accessing natural family planning counseling sessions in remote areas.

These implementation difficulties and the limited time (six months) in which activities were studied are likely to limit the achievement of the potential impacts of these interventions. Indeed, the evidence of impact is mixed. There is some evidence of impact in Taytay with respect to immunization coverage for mothers and children. There was neither improvement in VAC coverage, nor a change in CPR, although use of modern

methods increased. Evidence from San Carlos shows a decline in CPR and in TT2+, and no change in VAC coverage. However, FIC coverage appeared to have increased.

Lessons for Planning, Implementing and Monitoring Health Interventions at the Local Level

It is clear from the results of the impact evaluation that expected impacts from what might be inherently effective interventions can materialize only if they are implemented properly and as planned. Together with the results from the process evaluation, the evaluation results point to the following important considerations that are useful for planning, implementing and monitoring health interventions by local government authorities in order to maximize the impacts of such interventions.

Need for a good information system for planning, implementing and monitoring interventions. Initially, local government units in this study relied on FHSIS data, the only data available at that time, to analyze problems and set targets. The limitations of the FHSIS data for planning are well known, but they were a useful starting point. Indeed, the implementation of the interventions in all the study areas necessitated the gathering of new information regarding the unmet needs of potential clients. The CBMIS was found to be quite useful in identifying potential clients with unmet needs. Thus, it would appear that the CBMIS is a useful tool, providing the needed information for planning, implementing and monitoring health interventions, but the system requires a lot of investment in health workers' time, training and motivation to be sustainable.

A wide range of interventions are possible – some have larger outputs than others, but it is important to also consider the net output in assessing alternative interventions. One of the main features of the Matching Grants Program was that local government units, with some technical assistance, assessed their own situations and decided on the types of interventions to fund and implement. The findings from the process evaluation of the four pilot areas show that a wide range of interventions can be implemented. Some activities have larger outputs than others. For example, outreach activities can cover a larger segment of eligible clients than family planning referral programs for bilateral tubal ligation. However, it is not clear whether all clients who received services through outreach activities should be counted as the output of the outreach activities. It is possible that without the outreach, some of the potential clients would have gone to the health facilities for needed services anyway. The outreach activities simply gave them another opportunity to obtain service in a different way. The true output of the outreach is the number of clients who were provided services who would not otherwise have gone to health facilities or received services because they did not know there was a need, they did not know where to go, or because the facility was too far.

Focused interventions in some areas may detract from improving services in other areas. It is possible that the focus of MGP-related interventions may have detracted attention from other services, leading to a decline in coverage and quality of these other services. For example, in Dasmariñas rural health unit I, while performance improved dramatically for TT2+, there was a large reduction in the coverage rates for FIC and VAC

(based on FHSIS data). This result suggests that efforts to focus on one outcome may displace other programs that are doing relatively well. Hence, local health managers should not lose sight of the larger local health sector plan, particularly routine activities that need to be maintained, when implementing new interventions such as those financed through the MGP.

Well-planned interventions can attract local funding and support. The Matching Grants Program experience suggests that, in addition to MGP funds and the local match, local governments were able to mobilize resources, whether financial or in kind, from various sources to implement their interventions. Sources of support included the Department of Health's regional and provincial offices, NGOs, and private drug companies. Local sources of funding and support are present in many communities. Well-planned interventions and advocacy are needed to attract this additional funding and support.

Lessons for Developing Approaches to Assist Local Government Units to Achieve Local and National Health Goals

Sustain important features of LGU performance. Findings from the process evaluation of the four Matching Grants Program areas suggest a number of important features of LGU performance. First, local government are responsive to new ideas and adoption of new information technology such as the CBMIS. Second, they use innovative approaches to implement projects. One area used incentives to attract volunteers in worker-intensive activities like the CBMIS, one adopted a multi-pronged approach to deliver services to difficult to reach mobile populations in industrial areas. Finally, they have existing mechanisms for mobilizing other resources and community support, including the support of NGOs in the area, which are essential partnership in the effective delivery of key services.

It is not clear whether these features were inherent in the Matching Grants Program if or they were pre-existing characteristics in LGUs that predisposed them to participate in the MGP in the first place. Whatever the case, there is a need to encourage, support and sustain these important features.

Mobilization of funds: avoid displacement effects. There is a question on whether the MGP and matching funds, together with funds from other sources, really represented a net addition to the local governments' resources for health programs. These new funds may simply displace funds that would have been allocated to the health sector but are now available for use elsewhere, (i.e., local governments may actually reduce the budget for health by an amount equivalent to the MGP grant and other support received from collaborating agencies and NGOs). It is also possible that the government may be shifting resources away from other health programs to match the MGP funds. In the first case, there would be no net addition to health resources, and in the second case, there are less resources for other health programs.

The budget allocation data available are not adequate to provide definite answers to these questions. It was reported, however, that in Dasmariñas the P117,900 provided by the

local government to match the MGP funds (MGP provided P400,000) was obtained by realigning funds already budgeted in 1999 for other purposes. MGP activities may actually have displaced funds for other activities whose performance may have suffered from reduced funding.

These findings suggest that grants to LGUs should be designed to provide guarantees for net additions to general health resources and for specific health interventions such as in the four priority program areas.

Cost-effectiveness field studies of selected interventions are needed to guide LGU choices. MGP recipients implemented different sets of interventions to improve the coverage of key services according to their assessments of the problems. It is still too early to determine which intervention had the most impact and at what cost. Cost-effectiveness studies need to be done in the future to further assist local governments to make better investment choices. Some activities are likely to have little impact on overall coverage by themselves, (e.g., escorting family planning clients to services), while others are likely to be expensive in time and resources in the long run, relative to potential net increase in coverage (e.g., community outreach services where some clients would have gone to the clinics anyway).

If political commitment to health is important for good performance it needs to be developed. Who participated in the MGP program? Political commitment from participants (both in terms of joining the program and putting up matching funds) was essential. While political commitment was a precondition for the MGP grant, it would be useful from a policy standpoint to examine how a Department of Health grant program can build local government commitment to deliver effective and high quality health services.

Get smaller LGUs into the mainstream of policy support. The MGP program was designed for relatively large LGUs with populations of at least 100,000, which are likely to be economically and administratively better off than some of their small counterparts. Service delivery problems might be more severe in smaller, poorer LGUs. What types of program innovations are needed to work with these governments and achieve the Department of Health's Local Health System reform?

The MGP experience can help address larger issues of the DOH's health sector reform agenda. What are the larger policy issues that an intervention like the Matching Grants Program should consider? With decentralization, a common concern has been the "breakdown of the integrated referral system that existed when the public health sector was centralized and controlled by DOH" (DOH, 1999). How can MGP programs help put the referral system in place again in the context of decentralized administrative control? One approach that the Department of Health suggested to reintegrate the referral system is to develop local health systems. A local health system is a compellation of health services that facilitates resource pooling among different LGUs in order to achieve an effective and efficient referral system. The approach has yet to be put in place by DOH. Lessons learned through the MGP might be used in helping to institutionalize this

approach. Benefits of the MGP programs include size (mid-size municipalities and component cities), technical assistance (through DOH and MSH personnel), interventions (selected by LGUs), and funds (MGP and matching funds). Municipalities that have rural health units and barangay health stations can link with provincial or district hospitals, as well as with private providers in their areas, to form an integrated referral system. These LGUs will have a common local health system plan and cost-sharing schemes. Technical assistance will be provided in health planning, mobilization and utilization of local health resources, and in linking up with private and NGO sectors. Finally, funds can be provided by DOH to fund critical elements in the formation of these networks.

Thus, while the old MGP focused on individual LGUs implementing interventions in four program areas, a new MGP might focus on a group of local governments to form an effective local health system to provide complementary services in a more integrated manner. For example, referrals for IUD insertions or removals, or for tubal ligations, would be more effective and better funded if the primary care center and the referred facilities were part of an integrated system administered and funded by several LGUs. This will prevent problems like LGU programs referring tubal ligation clients to hospitals out of their jurisdiction only to find that the service cannot be performed because of lack of trained personnel or funding at the referred facility.

In conclusion, the MGP process and impact evaluations provide valuable lessons, both for planning and implementing local health interventions that are effective, and for supporting local governments in expanding health service coverage in the context of health sector reform.

Appendix I
The MGP Performance Evaluation Study
Experiences in San Jose del Monte, Dasmariñas,
Tacloban and Digos, Philippines

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SUMMARY

In 1999, the Matching Grants Program was initiated as a new component of the Local Government Performance Project (LPP), a five-year initiative undertaken by the Philippine Department of Health (DOH), USAID and Management Sciences for Health (MSH). The Matching Grants Program (MGP) was developed as an incentive for local government units (LGU) to strengthen their delivery of health services. More specifically, the MGP aimed at improving the capabilities of local governments to effectively expand service delivery in such a way that its impact would be demonstrable. Four programs targeted for improved service delivery were identified: (1) Full immunization for children (FIC); (2) vitamin A supplementation coverage (VAC); (3) tetanus toxoid two-plus (TT2+) coverage for women; and (4) the use of modern contraception for family planning (FP). Local governments participating in the MGP determined the programs and ways to implement them to improve the health of their community in those four program areas.

Purpose of the MGP Evaluation

This report documents an evaluation of the MGP conducted between 1999 and 2000 by the Frontiers in Reproductive Health Program, in cooperation with Management Sciences for Health, at the request of USAID Manila. This activity falls under FRONTIERS' USAID IR 1: Testing Innovative Solutions to Reproductive Health and Family Planning Service Delivery. The objectives of the study were two-fold: (1) To evaluate the relative effectiveness of the various local government interventions funded by the MGP in reaching under-served and high-risk populations in need of health services; (2) To evaluate evidence from four selected local government units to determine if the interventions resulted in higher levels of coverage in the four programs targeted by the DOH for improved service delivery. The evaluation was conducted in two phases. This report, representing Phase 1, concentrates on the processes involved in the MGP in the four selected locations. Another report focuses on Phase 2, which concentrates on the outcomes of the MGP and its overall impact in two selected LGUs. Collectively, the reports for Phase 1 and 2 evaluate whether the different interventions led to significant improvements in the four targeted health program areas.

FRONTIERS staff conducted performance evaluations between June 1999 and March 2000 in four local government units, namely: (1) San Jose del Monte, Bulacan; (2) Dasmarinas, Cavite; (3) Tacloban City, Leyte; and (4) Digos, Davao del Sur. The evaluations measured program performance by monitoring various inputs, processes and outputs. The design for the Phase 1 evaluation utilized qualitative methods that documented performance levels through observations, in-depth interviews with key informants, and analysis of program-based data.

The information gathered at each of the four research sites is categorized in the following ways:

- Characteristics of the study area (including population statistics, the status and system of healthcare delivery and current health budgets)

- Planning and implementation of MGP interventions
- Highlights of the implementations (innovative strategies and problems encountered)
- Overall outputs of MGP and changes in service coverage in the four target health areas

Following the data presented for each individual site is a synthesis of the overall MGP experience. Particular attention is given to the amount of effort local governments invested in planning and implementing their MGP interventions. This section also looks at the limitations and strategies of local government officials in identifying local health problems, which directly affected the types of interventions they chose. Also documented are the processes and effects of new components added in each of the study sites, such as how new health information technology was integrated and how networks of nongovernmental organizations were mobilized to implement the interventions. Where possible, the report presents preliminary findings on how services were expanded in the research sites.

One highlight of this report is the section "Utilization of Study Findings." Examples demonstrate how specific findings resulted in policy shifts in program implementation as documented during midstream evaluations by FRONTIERS staff. This section describes how the Department of Health and Management Sciences for Health utilized the findings. Particularly noteworthy are the shift in criteria used to enroll MGP applicants in the program, and the modification the funding payment schedules to the local government units based on initial findings. The "Conclusions and Recommendations" section raises policy issues. Of particular interest is the question of whether the MGP match and local government funds, together with funds from other sources, really represent a net addition to the local governments' resources for health. The issue is whether these new MGP funds simply displaced funds already allocated to the health sector. The evaluation report concludes with a review of the role stakeholders play in implementing the Matching Grants Program and identifies four significant lessons learned:

1. Local governments are responsive to new ideas, as shown in the adoption of the Community-Based Management Information System (CBMIS).
2. Local governments are innovative in many respects, such as in their use of incentives to attract volunteers for labor-intensive activities, or adopting multi-pronged approaches to deliver services to difficult-to-reach mobile populations in industrial areas.
3. A review of performance outputs shows positive results, especially in the target program areas.
4. Local governments have identified innovative mechanisms for identifying and mobilizing other resources in the community, including the support of NGOs and the private sector.

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We thank Dr. Cecilia Acuin who served as project coordinator of the Evaluation Study and supervised the implementation of the field work, collection, and processing of the MGP data. Her early reports on the MGP project helped to synthesize the voluminous field notes and reports by field evaluators.

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It was a pleasure working with the staff of Management Sciences for Health. Their sense of professionalism made the task of evaluating the MGP a meaningful learning experience for the team in many ways. We thank them for their cooperation and openness, and for sharing with us documents needed to plan for and implement this study, which greatly facilitated the evaluation work.

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BACKGROUND

The local government unit Performance Program (LPP) is a five-year (1995-2000) USAID-assisted project with the objective of improving the “health of mothers and children by increasing the utilization of family planning, maternal and child health, and nutrition services.” The LPP strives to increase the capacity of local government units (LGUs) to manage health programs by providing both financial and technical assistance. Provinces and highly urbanized component cities were enrolled in the program through a memorandum of agreement “to implement a comprehensive plan on population, family planning and child survival program.” LPP grants are therefore designed to serve as incentives, encouraging LGUs to adopt best practices in the distribution of commodities, the training of staff, the equipping of service delivery sites, the provision of voluntary sterilization services, and the use of information, extension and communication materials (IEC).³

Data from the 1998 NDS and the Midterm Assessment in June 1998 raised the issue of whether the LPP has had any direct impact on delivery of reproductive health/family planning services. The assessment report concludes that while the LPP is “an effective vehicle for developing LGU management and service delivery capability,” it may not be the most appropriate means for achieving impact on health objectives. The report recommended a “follow-on initiative” that can put greater emphasis on impact, building on the strengths of the LPP, while overcoming its limitations.

The Matching Grants Program: The “Follow-On Initiative” of LPP

The above recommendation became the basis for the development of the Matching Grants Program (MGP). The Matching Grants Program is designed to stimulate local government units to focus directly on strengthening service delivery, giving them more latitude in determining their local programs. Consequently, the MGP was developed with the following well-defined features:⁴

- Targets mid-sized cities and municipalities, initially those with populations of 100,000 and above, where primary health care services are provided.

MGP Features

- *Targets mid-sized cities and municipalities, with populations of 100,000*
- *“Grantee-friendly” application process, with the LGU defining its own goals and program direction*
- *Flexible funding of up to PhP 500,000 and access to technical assistance*
- *Funding allocation designed for MGP-assisted programs through a “match” or counterpart fund*

³ Reynolds, Jack, et al. 1998. “Midterm Assessment of Intermediate Result 1 of Strategic Objectives 3 “Increased Public Provision of Family Planning and Maternal and Child Services”. POPTECH Report No. 97-127-067.

⁴ MSH. 2000. "Matching Grant Program (MGP): An Innovative and Responsive Program for Expanding 3 MSH, 2000 Service Delivery and Enhancing Quality of Care," pp. 1-2.

- Employs a “grantee-friendly” application process, with the LGU defining its own goals and program direction.
- Provides flexible funding of up to 500,000 Philippine pesos and access to technical assistance.
- Encourages LGUs to increase funding allocation and expenditures for MGP-assisted programs through a “match” or counterpart funding.

MGP Objectives. The MGP aims to improve the capability of municipalities and component cities to expand service delivery, and to achieve significant and measurable impact on the following four Department of Health (DOH) program areas:

1. Fully immunized children (FIC)
2. Vitamin A supplementation coverage (VAC)
3. Tetanus toxoid two plus (TT2+) coverage for women
4. Use of modern contraception (CPR) to reduce unmet need for family planning.

OBJECTIVES OF MGP EVALUATION STUDY

USAID Manila called upon the Frontiers in Reproductive Health Program to work closely with Management Sciences for Health (MSH) to conduct an evaluation of the MGP during 1999-2000. The objectives of the evaluation study are:

1. To evaluate the relative effectiveness of various interventions funded by the MGP in reaching underserved and high-risk populations with needed services.
2. To evaluate evidence of direct impact in selected LGUs, as measured by the contraceptive prevalence rate (CPR), childhood immunizations (FIC), tetanus toxoid vaccination among pregnant and married women of reproductive age (TT2+), and vitamin A use (VAC) among children between the ages of 12-59 months.

These objectives are directly related to the FRONTIERS program’s Intermediate Result 1: Testing innovative solutions to reproductive health and family planning service delivery. The evaluation study provides detailed information on the operations and impact of the MGP. It will be used by the Department of Health and local government officials to develop policy, improve program management, and refine the design of subsequent MGP programs in the Philippines.

RESEARCH DESIGN

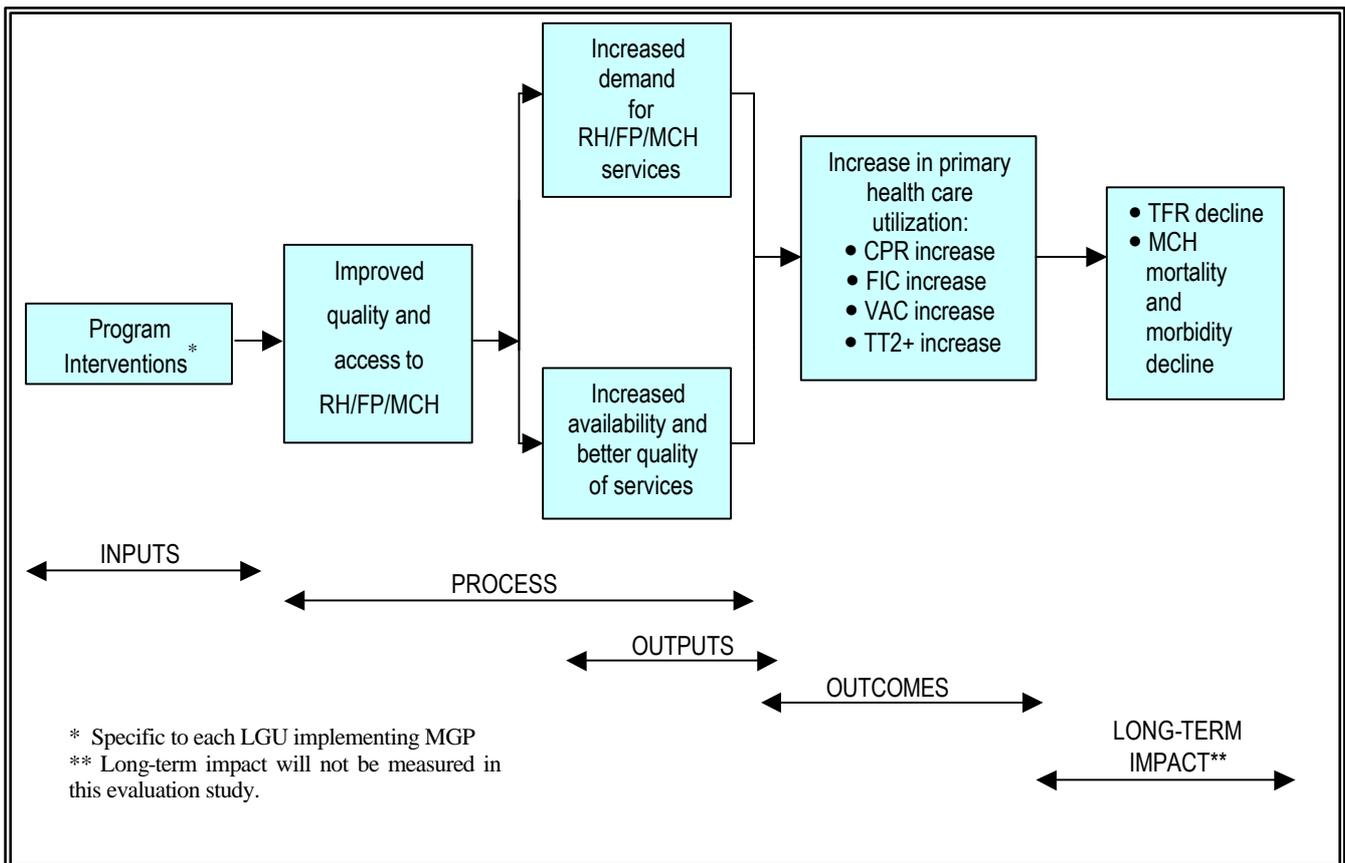
Due to the rapid implementation and timetable of the MGP, the evaluation proceeded in two phases. Phase 1 is the process or monitoring evaluation. This phase evaluated the process and outputs (performance) of the first set of MGP participants. Phase 2 consists of process and impact evaluation and assessed both program performance and outcomes. The primary objective is to determine whether different interventions (or mixes) will lead to significant increases in the four targeted indicators. The timeframe for observing changes was six months. The evaluation used the “input-process-output-outcome” framework as shown in Figure 1.

Study Phases

Phase 1:
Process or monitoring evaluation

Phase 2:
Process and impact evaluation

Figure 1. Conceptual Framework Showing Links of the Program Components to the Outcome Indicators and the Different Categories of Evaluation Indicators



1. Process and Monitoring Evaluation of Four MGP Sites

Phase 1 employed qualitative methods whereby Matching Grants Program inputs, processes, and outputs are documented in the field through observation, in-depth interviews of key informants, and analysis of program-based data.⁵ Sites were observed on a regular basis to ascertain whether program activities were being implemented according to plan, and to assess how well the activities were performed and utilized.

Site Selection. Municipalities and cities had to meet a number of established criteria to be selected to participate in the MGP. These included:

- Availability of matching funds
- Clearly defined activities and budget
- Activities should increase utilization of services among target clientele
- Activities should result in increased coverage
- Activities should be discrete and have a reasonable chance of obtaining measurable impact within 12 months or less

The following LGUs were selected for Phase 1 of the evaluation study: 1. San Jose del Monte, Bulacan (Cluster A); 2. Dasmarinas, Cavite (Cluster B); 3. Tacloban, Leyte (Cluster C); and 4. Digos, Davao del Sur (Cluster D).

2. Impact Evaluation of MGP Sites

Essentially, Phase 2 is an outcome evaluation (Figure 1). It measures the immediate effects of the MGP interventions on specific program indicators utilizing a quasi-experimental pretest-posttest nonequivalent groups design. Outcomes were evaluated using data from population surveys and situation analyses. Inferences about impact are based on the empirical analysis of outcomes (i.e., the direct and immediate result of program process and output), and plausible alternate hypotheses.

Site Selection. The original plan for selecting the impact sites was to randomly select them from the second batch of MGP recruits.⁶ However, because MGP was implemented on a “first come, first served” basis, it was not possible to randomize the selection procedure. In the end, the intervention sites were selected because of the availability of suitable control sites within their provinces. All the selected LGUs are cities and municipalities in the highest

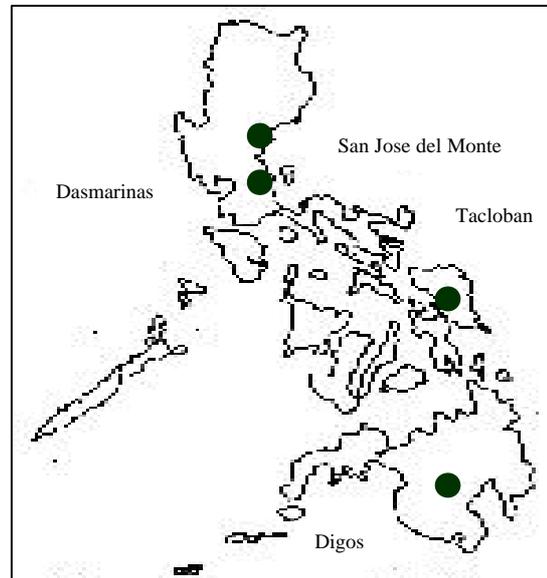
⁵ While every effort was made to ensure complete documentation of the MGP, there were key activities that were not observed by the field evaluator. For example, the planning stage for one of the MGP areas was not observed because this occurred before the evaluation study team was organized. To address this gap, key informant interviews were conducted to elicit information on what exactly happened during the planning activities.

⁶ The selection of the three intervention LGUs was further limited by two additional factors: 1) the rate at which MGP is being implemented (LGUs who had not yet been oriented and did not have a work plan on which the baseline assessment could be made could not be part of the pool for selection of sites for the impact evaluation), and 2) since the intervention LGU had to have a control LGU from the same province, this precludes the selection of LGUs where all MGP-qualified units of the province have been recruited at the same time leaving no possible control.

income category classification by the Department of Finance. The three sites chosen were Taytay in Luzon, San Carlos in the Visayas, and Tagum in Mindanao. These sites did not initiate MGP activities before the baseline assessment was made.

Intervention and control sites were matched on the following criteria: 1) both in the same province to control for administrative and other forms of support from the province level, 2) similar population sizes, 3) same income category, and 4) similar baseline performance on the four indicators of interest (FIC, TT2+, VAC and CPR). Because there are considerable differences in the level of economic development in different regions, pairs were selected in Luzon, Visayas and Mindanao – the three major geographic divisions of the country. Taytay-Binangonan, San Carlos-Cadiz, and Tagum-Panabo are the intervention and control sites chosen for the impact evaluation. Because of delays in implementation of the program interventions in Tagum, this set of sites (Tagum-Panabo) was dropped from the final impact evaluation. In the end, only two sets of comparison sites were included in Phase 2 of the study.

Figure 2. The MGP Process and Monitoring Sites



This section presents the process and monitoring evaluation results for Phase 1 of the MGP evaluation study. Figure 2 provides a map of the Philippines and study sites. Major findings are described for each of the four study areas organized as follows: (a) a brief description of the study area, (b) planning of the MGP interventions, with attention to the LGU analysis of problem areas and choice of interventions, (c) evaluation of the implementations, focusing on aspects including the application of new health information technology through the Community-Based Management and Information System (CBMIS), mobilization of new resources and expansion of health services, and innovations in service delivery, and (d) data on outputs and, in some instances, service coverage for the four key services.

MGP PERFORMANCE IN INDIVIDUAL STUDY AREAS

This section reviews the Matching Grants Program experience in four evaluation sites. More detailed analysis of the MGP performance in each of the four sites is reported in four separate site-specific reports (available from the Population Council, Manila).

1. San Jose del Monte, Bulacan

Characteristics of the Area

Population. The population has grown rapidly from 169,424 in 1994 to an estimated 269,083 in 2000, for an average annual increase of 8.4 percent. Massive squatter relocation and an increasing number of low-cost housing projects have contributed to this rapid growth in population.

Health care delivery system. San Jose del Monte is divided into two informal divisions. The first is the urban resettlement area, which is served by three rural health units located in the villages (*barangays*) of Minuyan, Bagong Buhay, and Sta. Cruz. The second is the non-resettlement area, informally identified by the local government unit as the “non-area,” and served by two rural health units, 11 *barangay* health stations (BHS), and 25 *barangay* sub-stations. Together, the two rural health units serve a population of 120,718, comparable to a medium-sized town. The Matching Grants Program covers all 24 *barangays* in the non-resettlement area. Many private clinics also operate in the area.

Health budget. The health budget increased from 1.5 million pesos in 1994 to 4.5 million pesos in 1999, representing 3.4 percent and 4.2 percent of the total local government budgets, respectively. On the average, 75 percent of the budget was allocated for personnel services during the period and only 25 percent was allocated for maintenance and operating expenses.

Planning the MGP Interventions

Based on the review of available staff and health facilities and the 1998 program performance for the four indicators, a MGP health team (comprised of a regional technical assistant from Management Sciences for Health, a local rural health physician, and other local health workers) determined that the family planning program needed the most attention. Data showed that the contraceptive prevalence rates in the two rural health units were 24 and 29 percent. The coverage rates for TT2+, FIC and vitamin A appeared to have been met (i.e., coverage of 100 percent or more), although the usual problems remain in estimating the target-based projected population and fixed factors for estimating eligible population. The population denominator can easily be underestimated in rapidly growing areas like San Jose del Monte, resulting in overestimated coverage rates for the program indicators. Hence, the low contraceptive prevalence rate recorded may in fact be even lower.

San Jose del Monte, guided by its MGP health team, focused its activities on family planning.

Through the Matching Grants Program, San Jose del Monte set as its goal an increase of 10 percentage points in CPR from 1998 levels, while maintaining high coverage rates for the other indicators. Their MGP activities were implemented in two of the municipality’s five rural health units, namely RHU I and RHU II.

Implementation of the MGP Interventions

San Jose del Monte, guided by its MGP health team, focused activities on family planning services. The key activities implemented were:

- **Implementation of the Community-based Monitoring and Information System (CBMIS).** CBMIS can be used to identify eligible populations with unmet needs for the four program services and to provide on-site services. In San Jose del Monte, it was expanded for use in other health programs including the use of growth monitoring charts, promotion of iodized salt, and monitoring of environmental sanitation, as a result of discussions among the health staff.
- **Community service outreach.** These activities aimed to provide services to clients identified to have "unmet needs" based on the CBMIS data. Services included clinic-based outreach activities, house-to-house visits to old and new clients who are eligible for the services, and setting up temporary centers in remote areas to provide family planning and other services for children and mothers.
- **Revival of IUD services in rural health centers.** No midwives were trained to provide IUD services in the two rural health centers. Plans were made to have midwives trained in IUD insertion and removal, but in the meantime, a referral system for IUD services was set up with Sapang Palay District Hospital.
- **Networking with a district hospital for VSS referrals.** Voluntary surgical sterilization (VSS) clients were referred for services at district hospitals. The MGP covered their transportation costs and provided an accompanying health provider.
- **Additional activities as offshoots of the MGP.** Utilizing information obtained from the CBMIS, other activities were implemented including the Mother-Baby Watch Program, a salt iodization program, a solid waste segregation program, and a data health board. The MGP served as a catalyst for these other programs.

Highlights of Implementation: Innovations and Bottlenecks

Incentives for maintaining the CBMIS. Due to the labor-intensive nature of implementing and maintaining the CBMIS, San Jose del Monte provided incentives to volunteer barangay health workers (BHWs), allowing them to sell iodized salt during their house-to-house visits. The incentive appears to have been effective not only in retaining volunteers, but also in expanding their number from 99 to 200.

The call slip system. Clients with unmet needs identified by the CBMIS were given a call (referral) slip. People with call slips were given priority during the outreach services, especially the clinic-based outreach. Those requiring non-MGP services were also given call slips for services to be obtained in the regular clinics. The call slip system ensured that priority clients were served without alienating those who came for non-MGP services. This

eased pressure on staff who are usually overwhelmed by the number of people who come for services.

Sustainability of community outreach activities. Due to the lack of health workers, health workers from other areas volunteered to help in the target community during the outreach activities. While this approach worked for a while, it will be difficult to sustain these activities in the future without additional incentives for volunteer outreach workers.

Outputs and Service Coverage

Outputs. Through the CBMIS, underserved populations were identified for community outreach. Close to 6,000 clients (from both RHU I and RHU II) were referred through call slips, of which 73 percent responded by seeking out the needed service, either through community outreach activities or at the clinic. For the call slips approach to work, however, sufficient motivation and initiative on the part of the clients is required. Barangay health workers played a substantial role in motivating clients to respond to call slips.

Community outreach activities covered all 24 barangays of RHUs I and II by March 2000. IUD service was hampered by a lack of trained staff and equipment. With the retirement of the only staff member trained in IUD insertion and removal at RHU I, an attempt was made through the MGP to equip RHU II to provide IUD services. However, training is not within the scope of MGP. A referral system with Sapang Palay District Hospital was arranged, and as of April 2000, 13 clients received IUD insertions. RHUs I and II also referred three clients for tubal ligation to the Sapang Palay District Hospital in 1998, three in 1999, and four in 2000 (as of April 2000).

Service coverage. The accomplishments of the MGP in San Jose del Monte for contraceptive prevalence are summarized in Table 1, based on Field Health Services Information Services (FHSIS) data. FHSIS data are limited, as denominators are based on projections of local populations (based on the national population growth rate). In the case of San Jose Del Monte, as in the other three MGP areas, the denominators used are too small as local population growth exceeds the national average. Hence, coverage rates appear to go beyond 100 percent. Because of the unreliability of the FHSIS, the CBMIS intervention was proposed. Given that FHSIS was the only existing data in the early phases of the intervention, it still proved useful in MGP program planning.

San Jose del Monte's levels of coverage after the introduction of MGP interventions are uniformly higher for each indicator, compared to the expected outcomes. It is too early to tell if these changes are due solely to the MGP interventions, however, the program indicators all showed positive changes. In fact, CPR almost doubled in 1999 in RHU II.

Table 1. Comparison of Program Outcomes Based on FHSIS Figures San Jose del Monte, 1998 and 1999

Performance Indicators	1998		1999		Expected MGP Outcome
	RHU I	RHU II	RHU I	RHU II	
CPR	29.4%	23.8%	53.0%	52.5%	34-39%
TT2+*	105%	102%	114%	135%	100%
FIC*	114%	119%	112%	130%	100%
VAC*	123%	106%	113%	109%	100%

Source: RHU records

*Coverage rates go beyond 100% because denominators are estimates based on national figures.

2. Dasmariñas, Cavite

Characteristics of the Area

Population. Dasmariñas is a rapidly industrializing town with an estimated population of 363,083 (1999). The rapid growth of the population in Dasmariñas since 1980 is related to patterns of urban resettlement in the 1980s and rapid economic development in the mid-1990s. The town recently became the site of the First Cavite Industrial Estate. The industrial part of town now hosts more than 50 factories producing electronics, food and garments. Dasmariñas is also known as the “University Town” of Cavite because it is home to several large universities and educational institutions that were established in the last decade.

Health care delivery system. The Cavite Provincial Government operates the Dasmariñas municipal hospital. The town supports two rural health units and 74 barangay health stations to serve the community’s primary health care needs. Each RHU is administered independently, with its own staff, facilities and catchment areas. The midwife-to-population ratio is close to the Department of Health recommended 1:5,000; however, the government physician-to-population ratio is considered far below standards in both RHU catchment areas.

According to RHU physicians, the community also lacks sufficient barangay health workers, with only 161 in both RHUs. The RHU physicians attribute this shortfall to local women’s preference to work and earn wages rather than volunteer at the health centers. This is not surprising given the level of industrialization and the availability of jobs in the area. Two private tertiary hospitals complement the public sector facilities.

Health budget. For the past five years, Dasmariñas has allocated about 7 percent of its budget for health. In 1999, 14 million pesos were allocated for health. About two-thirds of the municipal health budget goes to personnel services, with the remainder allocated to maintenance and operating expenses.

Planning the MGP Interventions

A review of program indicators in the four key areas by local MGP health authorities showed that, in 1998, both RHUs had adequate performance in the areas of child immunization and vitamin A supplementation. However, the performance in tetanus toxoid coverage and family planning use were relatively low. The coverage rate for TT2+ was only 24 percent in 1998, while estimated contraceptive prevalence was only 11 percent. As a result, the MGP plan focused on improving TT2+ and family planning coverage.

In Dasmariñas, the MGP focused on improving tetanus toxoid and family planning coverage.

Local health authorities attributed low performance in TT2+ coverage to the following factors: a common misconception among women that one dose of TT is sufficient, the tendency for pregnant mothers to visit rural health units for prenatal check-ups only just before delivery, many women are migrants and find it difficult to access needed services, and women in employed factories may not find health centers' schedules convenient.

With respect to family planning, part of the difficulty experienced in service provision by the RHUs was the lack of IUD kits and other equipment in the barangay health stations.

MGP Program Implementation

With the choice of TT and FP as the focus of MGP in Dasmariñas, the following activities were selected for MGP resources:

- **Community-Based Management and Information System (CBMIS).** To keep track of their large, mobile population, as well as the services they may have used in the private sector, the existing master list was updated monthly to determine Expanded Program on Immunization, family planning and vitamin A supplementation coverage status to identify those with unmet needs.
- **Three-pronged approach to improve TT2+ coverage.** This approach was adopted to follow up TT2+ defaulters, as well as first time TT clients:
 - 1) **BHS EPI team approach.** Before the MGP, midwives administered only child immunization during EPI days. Through the MGP, nurses were deployed to cover the barangay health stations so that mothers bringing their children for immunizations who were eligible for TT could also be served.
 - 2) **Home visits to follow up TT defaulters.** Pregnant and postpartum women who fail to return for their next TT dose are sent reminder letters by barangay health workers. If the woman still fails to come to the clinic, the midwife pays her a visit at home as an opportunity to correct misconceptions about TT.

- 3) **Industrial site visits for TT2+**. Letters were sent to factories within the municipality informing them of the provision of TT immunization to eligible female workers. Nurses visited those interested in the service and administered the TT injection on a pre-arranged schedule.
- **Provision of IUD equipment to BHSs with trained midwives.** Ten midwives who were trained in IUD insertion and removal were given IUD kits enabling them to provide services at the BHS. Before, IUD services were provided only at the RHUs.
 - **Escort services for potential VSS clients.** Voluntary surgical sterilization is offered at the municipal hospital, located in Dasmariñas Bagong Bayan (DBB). However, this hospital is not easily accessible to those residing in the town proper. The MGP provided funds for transporting clients to the DBB hospital for VSS.
 - **Training of traditional birth attendants.** Traditional birth attendants were trained on aseptic delivery techniques through the municipal health office. With the MGP, referrals for tetanus toxoid and family planning services were also emphasized.

Highlights of Implementation: Innovations and Bottlenecks

The establishment and use of CBMIS required a number of prior activities. First, a standard form was developed. A group of doctors, nurses, midwives, and barangay health workers attended a "write shop" to develop a standard instrument for master listing. Second, barangay health workers were trained to use the algorithm for determining unmet needs for family planning and to provide the appropriate services. The training uncovered a number of problems including difficulty in administering the English-language instrument.

The CBMIS required a large amount of staff time. It took six months to implement the CBMIS in RHU II. The rural health units gave non-monetary incentives to the barangay health workers who implemented the system, including vests and T-shirts, which also served to show to the community that the survey was an official activity of the local health units.

Making the CBMIS truly community-based may be limited by the capabilities of the barangay health workers who are responsible for data collection and initial data processing. In Dasmariñas, the BHWs were responsible for data collection only and midwives took charge of the data processing, an additional workload for the midwives. BHWs need to be trained in data processing and utilization, and provided incentives to participate in this program.

Outputs and Coverage of Program Services

Outputs. With the application of the CBMIS, RHU II covered 27,562 households in six months. There was a sharp increase in service provision (at least doubled) with respect to TT2+ and family planning between the last two quarters of 1998 and the last two quarters of 1999. For example, the number of pregnant women given TT2+ was 461 in the fourth quarter of 1998. This rose to 1,225 in the fourth quarter of 1999. Similarly, the number of family

planning acceptors rose from 681 to 1,393 during the same interval. The performance on child immunization (FIC), however, has remained about the same.

Service provision. For RHU I, data show that while performance improved dramatically for TT2+, it has remained relatively the same for family planning. RHU I has had a drastic reduction in FIC and VAC performance. Like RHU I, RHU II's VAC performance has declined. The staff from both RHUs attributed this to a lack of vitamin A capsules for distribution. These results need to be considered in assessing the overall effectiveness of the MGP, as efforts to focus on one outcome may displace other programs that are doing relatively well (Table 2). Further, we must consider that the 1998 data for VAC and FIC is based on FHSIS data, which, as discussed in the case of San Jose del Monte, may have already been inflated.

Table 2. Comparison of Program Outcomes Based on FHSIS Figures, Dasmariñas, 1998 and 1999

Performance Indicators	1998		1999	
	RHU I	RHU II	RHU I	RHU II
CPR	53%	24%	50%	46%
TT2+*	36%	45%	107%	80%
FIC*	120%	99%	75%	101%
VAC*	138%	92%	91%	87%

Source: RHU records

*Coverage rates go beyond 100% because denominators are estimates based on national figures.

3. Tacloban, Leyte

Characteristics of the Area

Population. Tacloban City, the capital of Leyte Province, is the hub of economic development in the Eastern Visayas. As such, it attracts a steady flow of migrants from less developed areas, particularly northern and western Samar. This migration contributes to an annual population growth rate of 3.8 percent, which is 1.5 percentage points higher than the national growth rate. This large transient population exerts tremendous pressure on the city's limited health care delivery systems.

Health care service delivery system. The city health office has only one health center providing family planning services to the city's 201,997 residents (projected population in 2000). There are 13 barangay health stations serving 138 barangays. As elsewhere in the Philippines, midwives provide the backbone of the health system's primary care services. While the ideal provider (midwife) to barangay ratio is 1:1, the

While the ideal midwife to barangay ratio is 1:1, the ratio in Tacloban is only 1:8, implying a significant shortage of health care personnel.

ratio in Tacloban is only 1:8, which implies a significant shortage of health care personnel.

At the community level, the city health office supervises 225 barangay health workers and the city population office oversees 133 barangay supply point officers. On average, the BHW-household ratio is in the order of 1:100-150. Many barangays have only one BHW who serves simultaneously as its supply point officer. In general, the BHW assists the general health program, while the supply point officer specializes in family planning activities. The majority of these community-based workers are volunteers.

The majority of community-based workers are not compensated for their outreach activities.

Health budget. The health budget in Tacloban increased from 7 million pesos in 1994 to 14 million pesos in 2000. As a percentage of the total city budget, however, it declined from 5.2 percent in 1995 to 3 percent in 1999. In 2000, it rose to 4.2 percent of the total city budget. Additionally, a large part of the health budget (about 70 percent on the average during the study period) is allocated for personnel expenditures (only 30 percent is allocated for maintenance and operations). This

limits expenditures on much-needed drugs, supplies, repairs, and maintenance, as well as travel allowances for outreach activities.

Planning the MGP Interventions

Based on available data, the city has attained high performance through its Expanded Program on Immunization and vitamin A supplementation. In contrast, TT2+ and CPR for modern methods indicate low coverage of 56 percent and 6 percent, respectively, in 1998. Tacloban chose interventions dealing with all four areas of concern. The city authorities attribute the low coverage rate for tetanus toxoid to the misconception among women that the vaccine causes sterility or miscarriage. On the other hand, the low modern contraceptive use was attributed to a fear of side effects such as increased blood pressure, vomiting, dizziness, and headaches associated with the pill, and bleeding associated with IUD use.

The interventions focused on the four areas of concern namely: TT2+, FP, EPI and VAC.

Implementation of MGP Interventions

Tacloban implemented activities to deal with the four areas of concern, namely: TT2+, FP, EPI and VAC. Their activities included:

- **Community-Based Monitoring and Information System (CBMIS)** to identify clients in need of services.
- **Conduct of Family Health Day and home visits for “mop-up operations.”** Activities included child immunization, family planning and reproductive health services, vitamin A supplementation, medical consultation, dental health services, and health education through puppet shows.

- **Provision of family planning and tetanus toxoid services during the social hygiene clinic and pre-marital counseling.** The integration of family planning services and tetanus toxoid immunization in the social hygiene clinic and pre-marriage counseling is a new city health office strategy under the MGP. The intervention is tailored to capture missed clients who cannot make use of services provided during the regular schedule in health facilities.
- **Partnership with nongovernmental organizations (NGOs) in expanding service delivery.** NGOs provided surgical sterilization and IUD services. The MGP supports the cost of client transportation to the facility and covers the service fee incurred. The MGP also provided some of the supplies needed for the services.

Highlights of Implementation: Innovations and Bottlenecks

As in the other MGP areas, there were initial bottlenecks in implementing the CBMIS in Tacloban.⁷ When initial problems were resolved, however, the city health office found the CBMIS to be a useful tool, not just for obtaining information about their clients, but for facilitating service delivery as well. The CBMIS has allowed the program to assess potential demand for services in the community.

A number of areas regarding the CBMIS need to be addressed. Foremost are the time and staff resource needs. Tacloban has not found it efficient to utilize their barangay health workers or supply point officers for this intervention, instead using midwives and nurses to conduct the CBMIS program. How this approach will affect the sustainability of the CBMIS is still in question, given the limited number of health personnel in the city health office. There is also a need to improve data processing and consolidation, particularly during updating and follow-up of clients.

The health mop-up operations through Family Health Day required a number of preparatory activities. These included using the CBMIS to identify clients in need of services, mobilizing the community, local officials, health workers, and other stakeholders (NGOs, other government organizations, academe, and drug companies).

The success of the activity depended on the support of many stakeholders. Logistical support, medicines and supplies from the Department of Health, the Provincial Health Office, and the GLAXO drug company augmented the activity's resource requirements. Active involvement of barangay health workers, supply point officers, and nutrition scholars and the facilitative efforts of local barangay officials were crucial in community mobilization. NGOs (LEFADO

⁷ Problems that arose in the actual conduct of CBMIS included the following: two versions of the survey instrument were used at the time when the CBMIS as a process was evolving; the orientation was not so clear at the start; the reproduced copies of CBMIS tool were not legible; difficulty of BHWs and BSPOs in identifying unmet needs and translating unmet need into service provision or providing the appropriate action to be taken; and conflicting issues on who and how to process and consolidate the data or survey results.

and the Marie Stopes Foundation), the City Population Office, the Leyte Institute of Technology, and the Remedios T. Romualdez Medical School provided strong partnerships in advocacy and service provision.

Outputs and Coverage of Program Services

Outputs. As of March 2000, a total of 3,446 clients for FP, EPI, TT2+, vitamin A and other curative services combined were referred to clinics (public and private sector) since the completion of the master listing in August 1999. Data showed that 326 children (38.9% of the 838 target population) were fully immunized during Family Health Days held in the intervention period, while 139 pregnant women (45.7% of the 304 target population) received TT2+. Moreover, 606 (34.4% of 1,760) married women of reproductive age with unmet need for family planning were served, reducing unmet need to 81.4 percent.

Forty-seven of 649 clients in social hygiene clinics availed of tetanus toxoid immunization. Of these, 22 clients received the first TT dose. Moreover, 271 (91.7%) of 279 women of reproductive age attending pre-marriage counseling received TT immunization. Of these, 248 (89%) had their first dose, 5.4 percent received TT2, and 1.1 percent were given TT3.

NGO clinics helped expand the service delivery network in Tacloban. Of 51 tubal ligation clients, 28 were supported by the MGP. The number of clients ligated in RHU I increased from 2 to 28 during the MGP implementation. Of 17 IUD insertions by the Well-Family Midwife Clinic, eight were subsidized by MGP funds, and out of 25 DMPA clients at the clinic, five were covered by the MGP.

Service provision. Initial data show that the activities carried out as part of the MGP have achieved only a slight increase in TT2+ coverage. With respect to family planning, however, the expanded program increased CPR significantly (Table 3).

Table 3. Comparison of Program Outcomes Based on FHSIS Figures, Tacloban, 1998 and 1999

Performance Indicators	Program Outcomes (1998)	Program Outcomes (1999)
CPR	8%	46%
TT2+	56%	55%
VAC	100%	94%
FIC	100%	96%

Source: City Health Office

**Coverage rates go beyond 100% because denominators are estimates based on national figures.*

4. Digos, Davao del Sur

Characteristics of the Area

Population. The municipality of Digos is located 56 kilometers from Davao City. It is situated in the northern part of Davao del Sur and serves as a crossroads for the port cities of

General Santos, Cotabato and Davao. It is also the seat of the provincial government of Davao del Sur. Digos has become a hub of commerce and trade in the province. In 1998, the population of Digos was estimated at 112,754.

Health care delivery system. Digos is divided into two formal health jurisdictions: Rural Health Units I and II. RHU I covers 12 barangays serving a total population of 61,502. RHU II covers the remaining 14 barangays with a population of 51,252. The local government runs 23 barangay health stations.

The municipality has two rural health physicians assigned to the RHUs, five public health nurses, 21 rural health midwives, two dentists, two dental aides, and four sanitary inspectors. Volunteer barangay health workers (BHWs) supplement these health service providers. RHU I has 199 volunteers, while RHU II has 234 barangay health workers. The Davao del Sur provincial hospital is located in Digos. Private health facilities include a tertiary hospital, four secondary hospitals, and 15 primary local clinics.

The MGP team adopted a more general approach to implementing their activities, without focusing on particular programs emphasized under the MGP.

Health budget. The health budget of Digos rose from 4.8 million pesos in 1996 to 6.5 million pesos in 1998. The amount represents about 17 percent of the municipality's total budget. Similar to the other MGP sites, a large proportion of Digos' health budget (about 90%) is allocated for personnel services, and very little is left for drugs, equipment, repairs, outreach worker travel allowances, or other operating expenses.

Planning the MGP Interventions

Data showed TT2+ at only 52 percent in Digos in 1998. The three other indicators were relatively high before the intervention (CPR of 68%, FIC of 83%, and VAC of 92%), although authorities considered them to be low. From the health providers perspectives', performance in the four areas of concern was impacted by a lack of resources for outreach work (e.g., no travel allowances, high population to worker ratio).

The MGP team in Digos adopted a more general approach to implementing their activities than the other sites, without focusing on particular programs emphasized under the MGP.

Implementation of the MGP Interventions

The Community-Based Managed and Owned Information System (CBMO).⁸ The CBMO was designed to encourage community members to feel a sense of responsibility for health-related activities. It involved the whole community, allowing them to participate in the assessment of the community's health statistics, data gathering, utilization, direct service

⁸ The manner in which this system was developed and implemented differed from the other MGP sites' experiences. The process was heavily influenced by the technical assistance provided by the MGP field coordinator assigned to Digos.

delivery, and management to ensure sustainability of health services. As it is the community that manages the system, service providers are relieved of the additional workload.

A component of the CBMO is the Bayanihan Outreach Program. This strategy was implemented in all 26 barangays. The Bayanihan Outreach Program was conceptualized to serve community members needing medical and related family planning services such as tubal ligation, IUD insertion and removal, condom and pill provision, DMPA injection, circumcision, family planning counseling, dental services, and medical consultation. This activity was the most significant MGP initiative in the area, considering the local government unit appropriated 239,000 pesos, 60 percent of its MGP funds, for the CBMO and Bayanihan Outreach Program.

Health and nutrition posts. Several health and nutrition posts in the area that were inactive for some time were reopened. The health and nutrition posts served as extensions of the main barangay health station, providing new venues for service delivery in far away areas and making information more accessible to the community. For instance, herbal medicines, which supplement the primary medicinal needs of the community, were collected and planted at the posts.

The health and nutrition posts served as extensions of the main barangay health station, providing new venues for service delivery in far away areas.

The community provided in-kind resources, working for free to help construct the health posts.

Other programs in Digos included:

- **Tetanus toxoid integration in the pre-marriage counseling program.** TT injections were made available for women attending pre-marriage counseling. This effort was facilitated by the close physical distance between the Women's Center (the venue for local counseling sessions) and RHU I, and was supported by an ordinance from the local government unit. Additionally, the educational component of the counseling program was enriched in several respects through MGP activities.
- **Bilateral Tubal Ligations.** The rural health units started providing tubal ligation services for 10 clients per month, whereas before this service was conducted at irregular schedules, leading to overcrowding. Bilateral tubal ligation was provided free of charge under the MGP. The provincial health office provided anesthetics and personnel, and the municipal health offices provided post-operation medicines and transportation.
- **Outreach to small and medium enterprises.** An interagency Information, Extension and Communication and family planning service delivery system was established for female workers in small and medium enterprises. This strategy aimed to reach women who work from early morning to early evening and do not

have a chance to make use of public health services, particularly family planning services. However, progress in this activity has been slow.

Highlights of MGP Implementation: Innovations and Bottlenecks

The MGP activities in Digos highlighted a participatory process for obtaining information on clients needing services, focusing on remote barangays, and achieved an apparent increase in CPR, FIC, fully immunized mothers, and vitamin A coverage rates. These MGP interventions have been effective in reaching out to underserved and inaccessible communities, decreasing missed opportunities, and increasing availability of health services to clients.

Community volunteers are key partners in reaching out to individuals who may have unmet needs and in making service delivery more efficient. The integration of tetanus toxoid immunization into pre-marriage counseling also captures missed clients. This intervention should be sustained, but requires that service providers maintain a recording system that will enable them to monitor their clients closely.

The MGP activities in Digos highlighted a participatory process for obtaining information on clients needing services.

Outputs and Coverage of Program Services

Outputs. Through the Bayanihan Outreach Program, all barangays were visited at least once between June and December 1999. The outreach generated community interest and awareness of health programs, leading to the construction of health and nutrition posts. Additionally, 38 clients from RHU I and 56 clients from RHU II were referred for tubal ligation between June 1999 and March 2000.

Service coverage. With only a six-month observation period, there was little discernable change in the indicators. TT2+ coverage increased somewhat, but CPR, FIC and VAC coverage fell slightly (Table 4).

Table 4. Comparison of Program Outcomes Based on FHSIS Figures, Digos, 1998 and 1999.

Performance Indicators	Program Outcomes (1998)	Program Outcomes (1999)
CPR	68%	58%
TT2+	53%	56%
VAC	92%	87%
FIC	83%	81%

Source: Combined RHU records

OVERALL ASSESSMENT OF THE MATCHING GRANTS PROGRAM IN THE FOUR STUDY AREAS

Planning as a New Experience

The grant application and planning process represented a new experience for the local government grantees in that it was the first time they had taken such an active role in obtaining funding for carefully targeted interventions. They identified goals and activities, developed rationales for activities based on local conditions and needs, and determined actual allocation of the grant. For the most part, the process was participatory, involving as many local stakeholders as possible. Technical assistance, provided by the Department of Health regional office and the Management Sciences for Health field coordinator, played an important role for program implementation to proceed as planned and, relatively, without much delay. Table 5 summarizes the major steps entailed from the application process to the implementation of Matching Grants Program activities in the local government units. It is interesting to note that it took longer to complete the steps, on average, for the second batch of MGP recipients. This could be partly explained by the increasing number of applicants, which had to be processed by the Department of Health regional office. The steps that took the longest were the review of drafts, regional approvals, and the release of funds from the region.

Table 5. Critical Steps in the Implementation of the Matching Grants Program Based on the Experience of Four MGP Areas: San Jose del Monte, Dasmariñas, Tacloban and Digos, 1999

Critical Steps	Average Number of Working Days	
	First Batch of MGP Recipients	Second Batch of MGP Recipients
1. Invitation letter sent – RFA received by LGU	3	5
2. LOI submitted to DOH regional office	7	7
3. First visit/orientation	8	16
4. First draft of proposal prepared	9	14
5. Review of drafts/regional approval	9	25
6. LGU approval of draft/final draft	10	22
7. MOA signed	12	21
8. LGU received MGP fund	11	38
9. First key activity implemented	8	16
TOTAL	77	164

Table 6: A Summary of General MGP Interventions in the Four Evaluation Areas, February 2000

MGP Activities	San Jose del Monte	Dasmariñas	Tacloban	Digos
• CBMIS Implementation	X	X	X	
• CBMO				X
• Outreach Activities (with provision of services in clinic-based, community-based, or at work-site)	X	X	X	X
• “Mop-Up Activities” (home-based follow-up service provision for missed clients)	X	X	X	X
• Family Planning Referrals (IUD and/or VSS)	X	X	X	X
• Provision of IUDs to Local Health Workers		X		
• Training for IUD Insertion/Removal	X			
• TT2+ Referrals		X		
• TT2+ in Pre-Marriage Counseling			X	X
• Training of TBAs on Aseptic Techniques and Referring for TT and FP		X		
• Health and Nutrition Post				X
• Partnership with NGOs in Service Provision			X	

Analysis of Health Problems and Choice of Interventions

For the most part, local governments relied on FHSIS data, the only data available at the time, to analyze health problems and set targets. The limitations of the FHSIS data for estimating coverage rates of interventions are well known. Based on their assessments of where coverage rates needed significant improving, local government units chose their interventions. The types of interventions varied by site, both in terms of which of the four service areas emphasized, and in terms of specific activities used to address unmet needs and provide measurable impacts. The interventions are summarized in Table 6 (above). In most cases, the activities chosen were quite creative and innovative.

Implementation of MGP Interventions

Application of a new health information technology: The CBMIS. A major feature of the MGP in three of the four study areas was the adoption of a community-based monitoring and information system with technical assistance from Management Sciences for Health. The

CBMIS combines information gathering with service delivery. It provides information on clients with unmet needs as determined during house-to-house (master listing) visits by barangay health worker volunteers. In introducing the CBMIS, Management Sciences for Health has drawn from the experience of a Davao operations research project that used the unmet need algorithm to identify women for family planning services. FRONTIERS Philippines staff proposed the use of the CBMIS in implementing MGP activities. In San Jose del Monte, CBMIS information is presented in the form of a Data Health Board for community use. Experiences in Tacloban and Dasmariñas were similar; master listing involved outreach health workers (with more involvement of midwives and nurses in Tacloban) and put emphasis on referrals to fixed facilities, as well as rural health unit service provision. Digos adopted a similar system called the Community-Based Managed and Owned Information System (CBMO). Unlike the CBMIS, the CBMO included community participation in the data collection and utilization process.

While the potential usefulness of the CBMIS is great, it requires sustained participation to implement on a routine basis. As the experiences of San Jose del Monte, Dasmariñas and Tacloban show, maintaining a CBMIS requires a number of trained health workers who can collect the necessary information accurately and process it in support of service delivery. The introduction of incentives for health workers in San Jose del Monte, and to some extent in Dasmariñas, may help maintain health worker participation for the task, but how long local authorities can continue the incentive system remains a question.

Mobilization of New Resources for Health

The Matching Grants Program provides up to 500,00 pesos in new resources for health. Local government resources then match the MGP funds. MGP activities may also generate additional resources, whether financial or in kind, from the Department of Health or participating NGOs. For example, in the implementation of the Family Health Days in Tacloban, the city had to rely on a number of partners. Logistical support, medicines, and supplies from the Department of Health, the Provincial Health Office, and the GLAXO drug company augmented the local government units' resource requirements. Active involvement of barangay health workers, supply point officers, and barangay nutrition scholars and the facilitative efforts of local barangay officials were crucial in community mobilization. NGOs (LEFADO and the Marie Stopes Foundation), the City Population Office, and the Leyte Institute of Technology provided strong partnerships in advocacy and service provision.

However, there are concerns that the new funds from the Matching Grants Program may not actually add to the net funding available for health programs. Local governments may actually reduce their health budgets by the amount of funding received through the MGP. Additionally, local governments may simply shift resources away from other health programs to match the MGP funds.

There is not enough data to determine if local health budgets were actually reduced because of MGP funds. The health budgets in the four sites increased in absolute terms from 1998 to 1999, although the percentage of the total budget allocated to health declined somewhat in all of the areas. In San Jose del Monte the health budget as a percentage of the total budget declined from 4.4 percent in 1998 to 4.2 percent in 1999. In Dasmariñas it dropped from 7.1

percent to 6.9 percent, in Tacloban from 4.8 percent to 3.0 percent, and in Digos from 17.6 percent to 15.4 percent.

Data on the actual amount of matching funds provided by the local government are not available in all of the study areas, although all of them did provide both funding and staff time to implement the MGP activities. In Dasmariñas, the local government provided a total of 117,900 pesos to match the 400,000 pesos provided by the MGP. However, much of this money was realigned from funding already budgeted in 1999 for other purposes. Hence, in Dasmariñas MGP activities have displaced funds for other activities whose performance may possibly suffer from reduced funding.

The Department of Health Provincial Health Office also provided resources, mostly in kind, including vaccines and syringes in Dasmariñas and Tacloban. In San Jose del Monte and Digos the communities also provided in-kind resources in terms of volunteer work, and Tacloban tapped NGOs. It is not clear, however, whether these resources would have been provided to the local governments for similar activities and are therefore not unique to MGP interventions.

It is important to note that all of the local government health budgets in the study area are spent mainly on personnel salaries and benefits (about 80%), leaving little for operations and supplies including drugs, equipment, repairs, and travel allowances for outreach and supervision activities. The MGP funds can be viewed as providing resources to improve operations because these funds were spent directly on interventions to improve the capacity of the local health sector to provide critical program interventions.

Expansion of Services in the Four Program Areas

The MGP led to the implementation of activities focused on improving coverage of key services according to the individual needs of each study area. It is still too early to determine which interventions had the most impact. Additionally, studies should be done to see which interventions were most cost-effective. For example, that community outreach activities conducted in San Jose del Monte and Tacloban required a lot of preparation and input to mount. While such outreach activities do reach a number of clients, it is not clear whether these clients would have used routine services if the outreach activities were not available. In other words, the net increase in clients seen may be smaller than the number of clients reached through outreach activities, as these activities may be incorporating clients who would seek out routine services anyway.

Innovations in Service Delivery

In San Jose del Monte, Bulacan, an incentive system attracted volunteers for labor-intensive activities like the CBMIS. The CBMIS, together with the call slips, gave the rural health unit a system for prioritizing service provision. The MGP there also served as a catalyst for other health programs, such as environmental sanitation.

Dasmariñas adopted a three-pronged approach to improve TT2+ coverage. Through the barangay health station Expanded Program on Immunization, home visits to follow up TT2+ defaulters, and industrial site visits to provide services to working and highly mobile women, they were able to improve their coverage rates.

Tacloban added family planning and TT2+ services to its existing social hygiene clinic services and pre-marital counseling program. It also tapped NGO resources to expand its service delivery network.

Digos also added TT2+ services to its pre-marriage counseling program.

Results

Performance in the four study areas with respect to improving coverage of key services is mixed. In San Jose del Monte, FIC, VAC and TT2+ coverage rates were maintained at their previously high levels, and CPR doubled compared to the baseline, based on FHSIS reports.

In Dasmariñas' RHU I performance improved dramatically for TT2+ and remained the same for CPR. But RHU I had a drastic reduction in FIC and VAC performance. While RHU II's FIC rate remained about the same, TT2+ and CPR rates markedly improved, and VAC performance declined drastically. These results suggest that efforts to focus on one outcome may displace resources from other programs that are doing relatively well.

In Tacloban City, Leyte, initial data show some progress in increasing TT2+ coverage based on identified targets. With respect to family planning, the expanded program under the MGP reduced the percent of married women of reproductive age with unmet needs to 81.4 percent.

In Digos, Davao del Sur there was little change that could be discerned in the indicators during the six-month observation period. TT2+ coverage increased somewhat, but CPR, FIC and VAC fell slightly.

UTILIZATION OF STUDY FINDINGS

Disseminating the results of this study, efforts have focused on the major stakeholders in the Matching Grants Program including the Department of Health (local and national levels), local government units, Management Sciences for Health, and USAID.

Throughout the project, feedback was regularly exchanged in the field between the MGP field coordinators (or regional technical advisors) and the Population Council field evaluators. In addition to on-site feedback, FRONTIERS staff presented initial findings to MGP stakeholders midstream. Presentations and briefings were held at the Population Council office and at a MGP local government summit in Bacolod City. Findings were also presented during a regular CA meeting at USAID. In a recent interview with Management

Sciences for Health project management staff,⁹ they cited specific examples of results disseminated through the FRONTIERS MGP evaluation study being utilized for program management including:

- The MGP requirement that grantees have a minimum population of 100,000 was reduced to 80,000. In addition to targeting municipalities or cities, the MGP has initiated a "clustering" strategy where projects can take place in several small municipalities clustered together, so as to expand the MGP to areas that may not be able to meet the population requirement. This new policy was adopted in response to the evaluation report suggestion that there is tension between the goal of demonstrating impact and the objective of equity in health provision. The MGP has specified that programs target hard-to-reach communities within the municipalities in order to provide services in areas that are geographically disadvantaged and underserved through existing health services.
- The MGP has become more specific in terms of what must constitute the local government's match. Previously, the term "match" was liberally construed by the local governments, resulting in unevenness across MGP areas in terms of funds and in-kind resources provided by local units. In the next rounds of MGP grants, the grantee must allocate an amount equal to 25 percent of the MGP grant, from a new source of budgetary funding. In addition, the MGP funds are to be used first to improve facilities to meet the requirements of "Sentrong Sigla," and second to enroll indigents in the Indigent Program of the Philippine Health Insurance Corporation.
- The process of distributing funds has been simplified. Local governments no longer have to submit MGP plans as a condition of fund release. Once they have indicated to the Department of Health that they are interested in using their MGP funds, representatives from the Department will then provide an orientation. Upon completion of the orientation, the interested local government will then be required to sign a Memorandum of Agreement with the Department, which will allow the immediate access to 40 percent of their MGP funds. This initial money must be used to initiate the CBMIS through training of local health workers, data collection, and processing that will then form the basis of MGP program planning in the area. Upon the submission of the MGP program plan to the Department of Health, the remaining 60 percent of the grant will be released to the local government unit. These changes were made based on the evaluation report's review of length of time that it takes to complete the steps in program implementation (see Table 5).
- As mentioned earlier, the CBMIS has become a central component of the MGP. As an information gathering instrument and as a strategy for service provision, the CBMIS is now considered the "heart and soul" of the MGP (according to a Management Sciences for Health representative). In addition to introducing the CBMIS as a component of the MGP, several improvements in the administration of the CBMIS were made. For instance, a referral system has been built in. Upon completion of a survey, community

⁹ In a meeting held on May 25, 2001 Dr. Sonny Magboo of the Management Sciences for Health enumerated the areas where the evaluation project results have been utilized to improve and sharpen MGP implementation in subsequent MGP sites.

members will be given a health card containing information on their health status and providing them referrals to the appropriate health facilities for follow-up care. As a strategy of consolidating CBMIS data, "spot-mapping" has been introduced to identify key areas of need. Additionally, barangay captains are being encouraged to become more active stakeholders, as they are important in mobilizing both barangay health workers and community members. Finally, the CBMIS is being designed to specifically address the needs each different program area.

CONCLUSIONS AND RECOMMENDATIONS

Based on the evaluation of four Matching Grants Program sites, it is clear that the program has had an impact on the roles played by key stakeholders as a strategy for the provision of health services, particularly in the areas of FIC, CPR, VAC and TT2+.

Stakeholders' Roles under MGP

Department of Health Regional Office: The Department of Health Regional Office plays a significant role in the application process, identifying local government units to invite into the program, providing orientation to interested LGUs, helping to draft initial MGP plans, approving the plans, and finally, disbursing the MGP funds. Upon approval of the MGP plan and fund disbursement, the Department of Health provides other in-kind resources including training on the CBMIS, monitoring of program implementation, and, in some cases, provision of medical supplies.

Management Sciences for Health: At this initial stage of the MGP, the Department of Health's regional office lacks the capacity, especially in terms of personnel, to provide local governments with the needed technical assistance. Hence, MSH provides technical assistance to LGUs, assigning a regional technical advisor (RTA) to MGP areas. The RTA provides support in initial planning and in program implementation.

Provincial Health Office: Based on observations of the four sites evaluation here, the provincial health office has played much less of a role than has the regional office. Indeed, there is uncertainty about the role it should play in the MGP. It is recommended that the PHO's specific role in the MGP be examined and appropriate policy changes be made to better include them in MGP. Further, the capacity of this office must be built to enable it to better take on the responsibility for technical assistance. For instance, in the case that the LGU approaches the regional office for supplies, they are first disbursed to the PHO, which then has the responsibility of distributing them. This arrangement can lead to serious problems if coordination among the various units is not enhanced.

Local Government Units: The LGUs adopted different strategies across the four evaluation sites in terms of assigning MGP point-people. In one site, one doctor from the two RHUs took the lead as the MGP point-person. Her leadership had a positive impact on the kinds of outputs produced by the program there. In another site, the mayor assigned responsibility for the MGP to the city health office where it was delegated to the family planning coordinator, a nurse. Delegating responsibility for the MGP from one person to another may explain why

there were critical lapses in implementation in this area. In other cases, each of the doctors in the RHUs covered by the MGP were responsible for administering and implementing the MGP. Reports from the field indicate, however, that this arrangement can be problematic as doctors sometimes compete for resources, which has consequences for community members seeking health services. It is recommended that a "policy-champion" be identified within each LGU to be an advocate for MGP implementation.

Midwives/nurses and local health workers (both trained and volunteer): Local barangay health workers, nurses, and midwives were involved in all stages of the MGP process, from planning and implementation to evaluation. In other words, the MGP has been a highly participatory process. However, the degree and manner in which these actors participated differs from area to area. Local government units should consider effective ways to sustain barangay health worker involvement through incentive systems, in view of their voluntary yet critical role in CBMIS implementation.

Added responsibilities were placed on the shoulders of nurses and midwives. In one area they took a lead role in CBMIS implementation. One recommendation that stems from this experience is that the roles and functions of these health workers must be clearly specified, especially with respect to the tasks of updating the master list and collating and analyzing the CBMIS data.

However, the use of volunteers was not always a uniformly positive experience in the areas that were evaluated. Given the critical role of outreach workers in the program, there is a need to provide these workers with appropriate training and motivation.

Barangay officials: From experiences in the evaluation sites, links with local barangay officials are important for the MGP. The barangay officials mobilize their constituents and provide in-kind resources, including securing venues for outreach activities, supplies and food.

NGOs and private sector: The MGP has helped to create partnerships among local government units, NGOs and the private sector. The NGOs and private sector institutions have been important in maximizing MGP activities through service support and in-kind support. Several industries not only provided the MGP with supplies, but also allowed MGP staff to provide on-site services to their workers.

Lessons Learned

Documenting the performance of Matching Grants Program recipients provides a number of lessons for local governments planning and implementing focused interventions to achieve specific health objectives and for Department of Health personnel designing programs to support local governments.

Planning and implementing specific interventions was a new experience for the local government units. With technical assistance from the Department of Health and regional technical assistants, they identified specific demand and service delivery problems in the four

program areas, and designed focused interventions to address these problems. The facilitative and participatory approach of the MGP allowed this process to emerge. Local health authorities were able, in most instances, to focus services on areas and groups that needed them the most, given limited resources.

For the most part, local government units relied on FHSIS data to analyze problems and set targets. The limitations of the FHSIS data for planning are well known, but they were a useful starting point. New information was gathered at the outset of the projects to determine areas of unmet need for potential clients. The CBMIS technology, refined earlier in an operations research study on improving quality of care in family planning, was used to identify unmet need in this program in three of the four sites evaluated.

The CBMIS was quite useful in identifying potential clients with unmet needs for family planning. However the CBMIS requires a lot preparation and sustained activity to implement on a routine basis. The system still needs further refinement, particularly in terms of the referral system and ensuring that it is updated regularly. It requires a number of health workers to gather data through house-to-house visits and subsequently process the data to support service delivery efforts.

The MGP experience indicates that, in addition to the MGP funds and the local match, local governments were able to mobilize other resources, whether financial or in kind, from various sources to implement their interventions. Sources included Department of Health regional and provincial offices, NGOs, and private drug companies. There is a question, however, as to whether money from the MGP really represented a net addition to local governments' resources for health, or whether local governments' simply displaced funds for other important health programs (such as malaria, or TB) to provide the match. Data obtained from the local governments regarding their budgets and allocations, including allocations within the health sector, were not adequate to provide definite answers to this question.

In conclusion, while questions of sustainability and cost-effectiveness remain, this evaluation uncovered a number of important findings to guide future MGP implementation. Local governments are responsive to new ideas (e.g., adoption of new information technology such as the CBMIS). MGP interventions are innovative (e.g., use of incentives to attract volunteers in labor-intensive activities like the CBMIS, or adopting a multi-pronged approach to deliver services to difficult to reach mobile population in industrial areas). Initial data indicate that services are being provided to priority clients in each of the four sites that evaluators monitored. There are indications that local government units have identified mechanisms for outsourcing and mobilizing other community resources for this program, including the support of NGOs and other private sectors.

Appendix II
An Impact Evaluation of the
Matching Grants Program in the Philippines

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BACKGROUND

Following the passage of the Local Government Code of 1991, the authority, funding and implementation of key programs were devolved from the national government to local government units (LGUs). To address the capacity building needs of the local government health system, the Local Government Unit Performance Program (LPP) was launched in 1995. This program was a five-year USAID initiative (1995-2000) designed to improve the health of mothers and children through increased utilization of family planning (FP), maternal and child health (MCH) and nutrition services.

Soon after the release of the recommendations of the Midterm Assessment of the LPP project and the 1998 National Demographic and Health Survey (NDHS), which pointed to the rather lackluster performance of the Philippine family planning program, the LPP supported three concurrent programs to refine its implementation: (1) the Base Grant Program, (2) the Top Performers Program, and (3) the Matching Grants Program (MGP). Base grants for 85 LGUs that were already in the program were continued but LGUs that exceeded the minimum coverage standards on outcome measures were given additional funding incentives (MSH 2000) under the Top Performance Program. The third program component, which is the MGP, focused assistance on directly enhancing health services in municipalities and non-LPP cities.

The Matching Grants Program (MGP)

In February 1999, the Department of Health implemented the MGP as a component of the LPP with funding support provided by USAID and technical assistance from the Management Sciences for Health (MSH). The MGP is an innovative funding mechanism given to non-LPP cities and municipalities in the Philippines with a population of 100,000 or more to enable them to directly take part in expanding service delivery and improving quality of care. As an indicator of commitment to the program, local governments were made to provide counterpart funding for the intervention programs that they have chosen to undertake in their localities and to decide on their own goals and program direction, in consultation with DOH technical advisers, for identifying gaps and alternative solutions.

The MGP has an implicit goal of making significant and measurable impact on the following DOH program indicators:

- *Contraceptive Prevalence Rate (CPR)* among currently married women of reproductive ages (MWRA).
- *Fully Immunized Children (FIC)* at age 12 months as measured by percentage of FIC among all children between 12 to 23 months.
- *Tetanus Toxoid Coverage (TT2+)* as measured by the percentage of pregnant women and MWRA with children who received at least two doses of tetanus toxoid vaccine.
- *Vitamin A Coverage (VAC)* as measured by the percentage of covered children between 12-59 months of age.

Among participating municipalities and component cities, MGP activities were expected to contribute to the attainment of the following DOH program goals, all of which are consistent with the goals of USAID Manila's *Integrated Family Planning and Maternal Health Project*:

- to increase the CPR from 47 percent to about 50 percent for any method, and from 27 percent to about 35 percent for modern methods;
- to increase FIC from 65 percent to about 80 percent;
- to increase TT2+ from 38 percent to 80 percent; and
- to increase VAC from 71 percent to 85 percent.

Processing of the first batch of MOAs consisting of 12 matching grants was done at the regional DOH level for implementation beginning May-June 1999. The second batch was selected in June-July 1999 and subsequently launched during the third and fourth quarters of 1999. Before the end of 1999, 36 LGU projects were launched.

The Need for Evaluation

In 1999, USAID Manila requested the Frontiers in Reproductive Health Program to coordinate with DOH and MSH to undertake a two-phased evaluation of the Matching Grant Program to strengthen program implementation and to assess the impact of intervention activities. This activity falls under FRONTIERS and USAID IR1: Testing Innovative Solutions to Service Delivery Problems, and is supportive of SO3 to improve maternal and child health.

The evaluation study as a whole aims: (1) to assess the effectiveness of MGP interventions in reaching underserved and high-risk populations; and (2) to measure the direct effect of MGP interventions on the following indicators: contraceptive use, childhood immunization, tetanus toxoid vaccination among women (pregnant and married of reproductive age), and vitamin A use among children 12-59 months old. The first phase of the evaluation study is the subject of an earlier MGP Process and Performance Evaluation Report. The present report focuses on the results of the analysis of the second phase of the evaluation study, the impact of the Matching Grant Program.

THE MGP IMPACT STUDY

To assess the impact of the MGP at the field level, four major health program indicators were compared in two selected municipalities of Luzon, Taytay and Binangonan, both located in the province of Rizal, and two component cities in the Western Visayas region, San Carlos City and Cadiz City, located in the province of Negros Occidental. Taytay and San Carlos City are considered the program areas while Binangonan and Cadiz are considered the comparison areas. If intervention activities initiated in the MGP are indeed important in effecting improvements in the health program of a community, large differences could be expected in health program output indicators between the study areas.

With the initiation of MGP activities in Taytay in January 2000 and San Carlos in 1999, marked improvements are expected in the four indicator areas. Attributing improvements to MGP activities is possible through a comparison of changes in these indicators relative to the comparison areas, which did not receive MGP funds but have relatively similar characteristics to those of Taytay and San Carlos City.

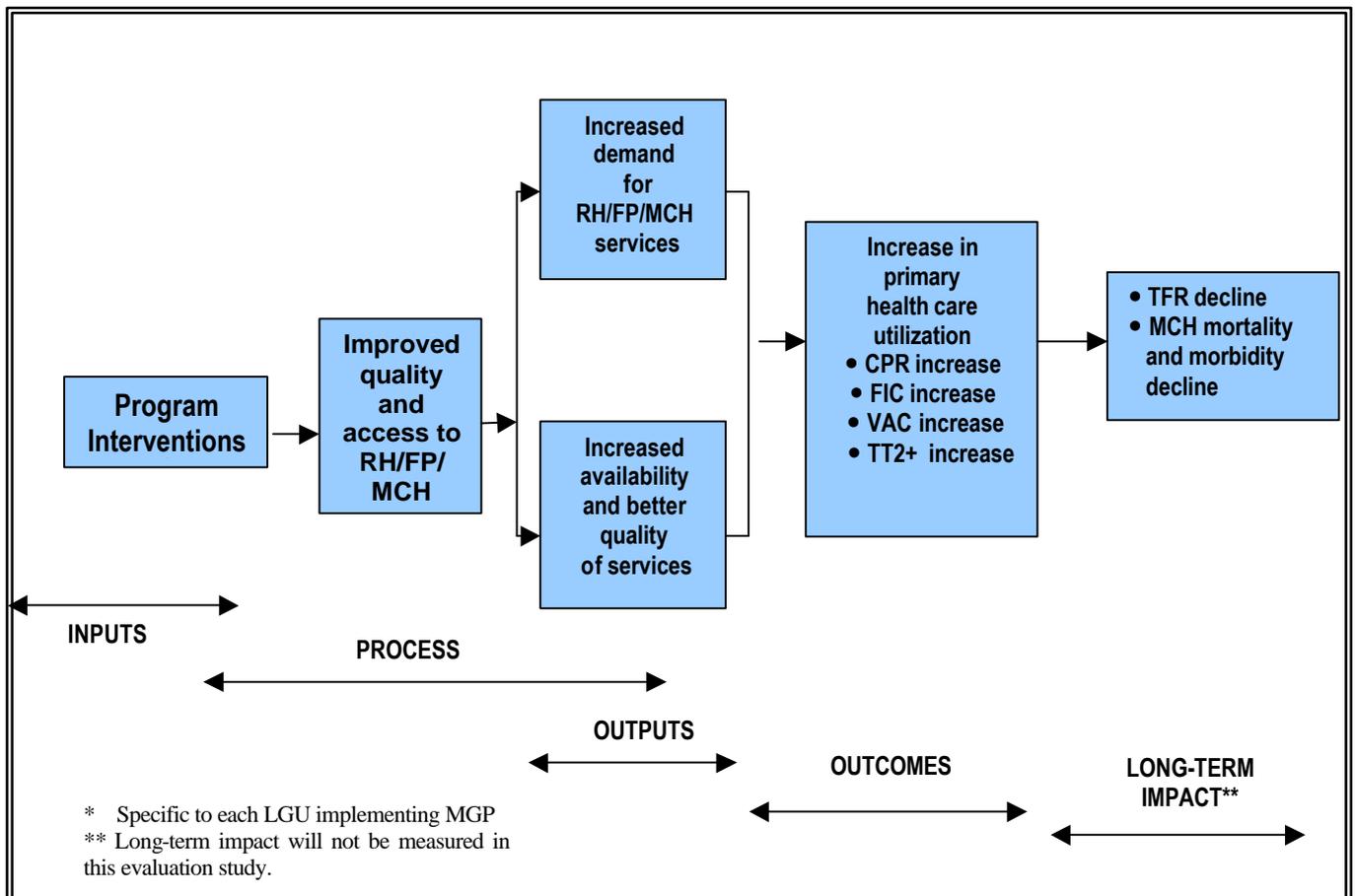
Methodology

The evaluation study utilizes the widely accepted conceptual framework of Input-Process-Output-Outcome¹ framework (Reynolds 1990) as shown in Figure 1. In this regard, it is important to differentiate between: (1) the quantity of observed inputs and processes, and (2) the actual quality of those inputs and processes. This evaluation is limited to observing the quantity and timing of inputs and processes. Assessment of the quality of inputs and processes is beyond the scope of the evaluation.

Also distinguished are performance and impact. Program performance is measured by careful monitoring of MGP inputs, processes, and outputs using program-based data. This is seen as an important source of data that can provide highly suggestive information about performance and, by implication, effectiveness. Scientific inferences about impact must be based on the empirical analysis of outcomes. This evaluation treats impact as an outcome effect, consistent with the *Evaluation Project Handbook* definition of an outcome effect as being "the relatively direct and immediate result of program process and output," e.g., changes in contraceptive and immunization prevalence (Bertrand 1994). The framework entailed observations of the implementation process including the collecting of clinic data for assessing outputs and conducting household surveys for generating outcome indicators.

¹ *Program Inputs* include the various resources, whether those be materials, financing, or human resources, that are "fed into" the program. In the MGP, these consist of the funds and TA provided by DOH on the one hand and the counterpart contribution of the LGU on the other. The latter will vary among LGUs, but are expected to include meaningful inputs in the form of personnel, supplies, facilitation, and possibly budgetary allocations. *Program Processes* are the specific activities carried out to achieve the stated objectives. Although processes are intermediate phenomena rather than actual outputs or outcomes, they should still be evaluated. Here, various program processes will be monitored throughout the life of the MGP in selected municipalities. *Program Outputs*, which result from the combination of inputs and processes, are activities or behaviors that can be objectively observed and measured. In the current context, this might involve measures of service delivery (e.g., number of vaccinations administered) or service utilization (e.g., family planning client caseload). *Program Outcomes* are the measurable results assessed empirically and scientifically subsequent to program implementation. For this evaluation, these are defined as the four DOH indicators targeted for impact.

Figure 1. Conceptual Framework Showing Links of the Program Components to the Outcome Indicators and the Different Categories of Evaluation Indicators



Research Design

The impact evaluation study employed the pretest posttest nonequivalent groups design. It aims to assess, in addition to program performance evaluation, the direct impact of the interventions funded under the MGP. The MGP outcomes will be evaluated using both clinic-based and population-based data in a before-and-after comparison group design. Dependent variables in the study design are measured by the four indicators:

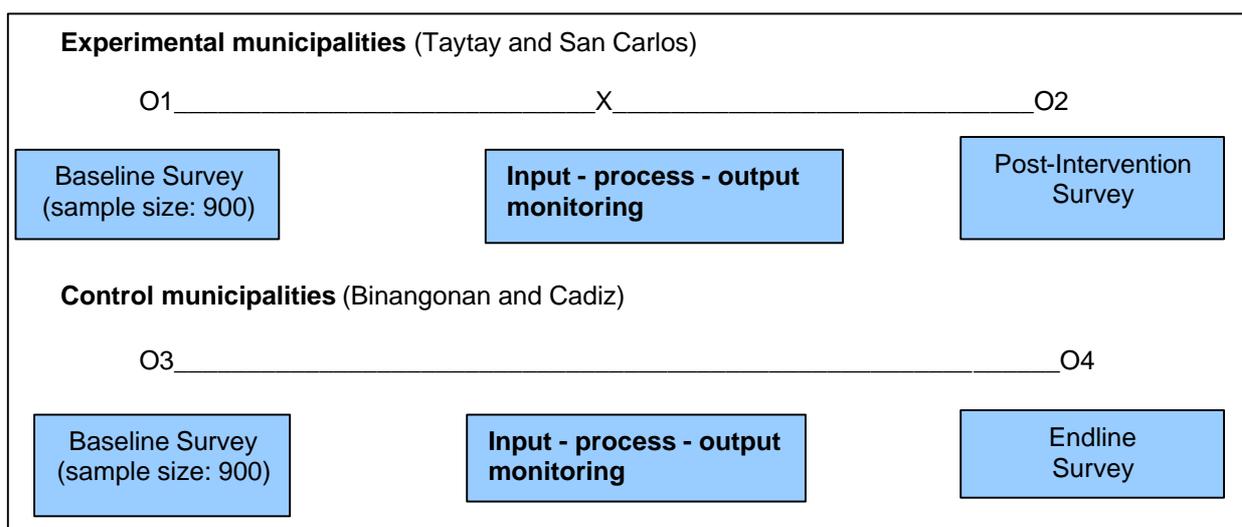
- **Contraceptive Prevalence Rates (CPR).** This is measured as the proportion of women 15-49 years of age reporting current use of any contraceptive method at the time of assessment. The denominator consists of all women 15-49 years of age (WRA). However, in some DOH service statistics, the denominator is defined as currently married women 15-49 years of age (MWRA). Whenever possible, and if the information is available, a distinction between these two measurements will be made.

- **Childhood immunization coverage (FIC).** The FIC is the percent of living children 12-23 months of age who have been vaccinated before their first birthday with three doses of Oral Polio Vaccine (OPV), three doses of Diphtheria-Pertussis-Tetanus (DPT) vaccine, one dose of Bacillus-Calmette-Guerin (BCG) vaccine, and one dose of measles vaccine.
- **Tetanus toxoid vaccination among women (pregnant and married of reproductive age) (TT2+).** This is measured as the percentage of pregnant women and mothers of reproductive age (15-49 years) with children under 5 years of age who have received at least 2 doses of tetanus toxoid.
- **Vitamin A use among children between the age of 12 - 59 months (VAC).** The VAC refers to the percent of children 12-59 months of age who received a Vitamin A supplement in the last six months.

The measurement of longer-term outcomes, such as changes in fertility or reductions in morbidity is limited by the scope of the MGP interventions and the evaluation time frame. Additional indicators based on the types of program intervention are also examined in this study.

The research design requires baseline measures of the status of key indicators both before (pre-intervention) and after the program (post-intervention) in comparable sites in order to determine a program's impact. In this type of design, pre-intervention measures are compared statistically to post-intervention measures separately for the control and experimental sites. To the extent that significant improvements are observed in the intervention sites, as compared to the comparison sites, one can conclude that the program has had a significant impact. Figure 2 shows the graphic representation of the research design that was followed in this study.

Figure 2. Research Design of the Program Impact Evaluation Study



Study Instruments

For each LGU, retrospective program performance indicators were obtained for the period beginning six months before program implementation. These data were collected throughout the 12-month implementation period and continuing three months after completion of the MGP.

Five interview schedules were developed for the modified situational analysis and the household survey to capture relevant process and impact information. Forms 1 and 2 were used for women aged 15-49 and for children 6 years old or younger in each sample household to elicit information about the status of family planning practices, tetanus toxoid immunization, children's immunization, and vitamin A supplementation.

To assess the condition of health service provision and delivery in the selected communities, three instruments were used. Form 3 lists facilities, services and activities that are currently available in the health facility. Information on service providers and clients was obtained from interviews using Forms 4 and 5.

Tracking program outputs also required analysis of routinely collected program statistics. Examples of relevant indicators are the number of new and continuing family planning clients and the number of measles vaccines administered per month. These types of data were collected at the level of the health care system most appropriate for the MGP activity. Statistical data were also gathered from primary sources (e.g., clinic logbooks) to the extent that this was possible. Such data have to be interpreted with caution, given the well-known low reliability and poor validity of DOH statistical summary reports.

Selection of LGUs

Due to the rapid implementation and timetable of the MGP, program sites were purposively selected from the first round of MGP enrollees. Furthermore, delays in the implementation of intervention activities in Tagum led to MSH's decision to exclude Tagum-Panabo as impact evaluation sites in Mindanao. Because of this, the evaluation study was limited to sites only in Luzon and Visayas².

Process and outcome measurements for pairs of LGUs in Luzon and Visayas were measured as part of the impact evaluation. Program and comparison LGUs were matched on the following criteria: (1) both LGUs should be from the same province to control for administrative and other forms of support provided at the province level, (2) similar population sizes, (3) same income class, and (4) similar performance indicators on the four outcomes of interest (FIC, TT2+, VAC and Family Planning). The program LGU should not have initiated MGP community activities before the baseline assessment was made.

² The initial plan was to conduct the study in the three major geographic divisions of the country because of considerable differences in their level of economic development.

Ideally, intervention LGUs should have been randomly selected from the second batch of MGP grantees, but this was not possible due to the MSH and DOH’s “first come, first served” policy. Selection of intervention LGUs was compromised by two additional factors. The first factor is the rate at which the MGP was being implemented. LGUs that were neither oriented nor had work plans on which the baseline assessment could be made were excluded from the selection process. LGUs were also excluded when there was no possible comparison site within the same province of the program LGU. Program LGUs were selected mainly because of the availability of a suitable comparison site (see Table 1). The selected LGUs are first-class (i.e., high income) cities and municipalities according to the income category classification of the Department of Finance.

Table 1. Selected LGUs involved in the MGP Evaluation

Major Geographic Division	Province	Selected LGU	
		Intervention	Control
Luzon	Rizal	Taytay	Binangonan
Visayas	Negros Occidental	San Carlos City	Cadiz City

Both San Carlos and Cadiz are small cities that are some distance from the provincial capital of Bacolod City. The 1998 indicators for these two cities are most comparable for family planning, which is the focus of the MGP plan for San Carlos. On the other hand, Taytay and Binangonan are both large municipalities that are accessible to Metro Manila and are home to many who work in the metropolitan area. Their 1998 indicators show considerable differences. However, among the possible comparison pairs, these two were closest in terms of population, level of development and resources.

The start and end dates for the collection of baseline data and post-intervention information in selected LGUs are shown in Table 2.

Table 2. Pretest and Post-test Data Collection Period by Selected LGUs

	Pretest		Post-test	
	Start	End	Start	End
LUZON				
Taytay	December 2, 1999	January 4, 2000	November 16, 2000	December 12, 2000
Binangonan	January 13, 2000	January 29, 2000	October 23, 2000	November 15, 2000
VISAYAS				
San Carlos	November 8, 1999	November 27, 1999	October 23, 2000	November 20, 2000
Cadiz	December 1, 1999	December 19, 1999	October 23, 2000	November 20, 2000

Sample Selection

In both intervention and control sites, facility-based information gathering and household surveys were conducted at two time points to represent before and after conditions. Primary sampling units for these data collection activities were the RHU/BHS and the household. For the household survey, the ultimate sampling units were women aged 15-49 in selected households and their children 6 years old or younger. Form 1 was used for collecting information on the women, while Form 2 was used to record information on

the children. For the facility-based interviews, Form 3 was used to collect information on the health facility, Form 4 for MGP service providers, and Form 5 for clients.

There is some variation in the sample selection procedures employed in four study sites. For Taytay, all barangays were included in the study. Within each barangay, a proportionate number of RHUs/BHSs were randomly selected. Households in catchment areas for the sample RHUs/BHSs were selected systematically. There were no lists of households in each barangay available from the Population Office, which could have served as a sampling frame. Each interviewer tossed a coin to decide whether to proceed to the left or right direction starting from the Barangay Health Center. With a random start and a pre-calculated sampling interval, they systematically selected households as they went from house to house.

The stratified sampling scheme was used in Binangonan for the selection of barangays. Barangays were initially categorized into three strata: *Small*, those with a population of 5,000 or less; *Medium* those with a population of 5,001 to 10,000; and *Large* those with a population of more than 10,000. A proportionate number of barangays were drawn from each stratum according to the size of the population. Sampling with probability proportional to the size of the sampled barangays was applied in the selection of households.

The sampling scheme used in Binangonan, Rizal was applied for the cities of San Carlos and Cadiz, Negros Occidental. The Population Office in the sampled barangays provided the sampling frame. Given the varied sample selection procedures, Table 3 summarizes the number of respondents for each evaluation form in MGP intervention and control sites.

Table 3. Number of Respondents for each Evaluation Instrument

Questionnaire Form #	Baseline					Post-test				
	Household Survey		Situational Analysis			Household Survey		Situational Analysis		
	1	2	3	4	5	1	2	3	4	5
LUZON										
Taytay	762	647	10	26	80	768	640	11	28	151
Binangonan	778	518	6	23	43	804	556	11	22	50
VISAYAS										
San Carlos	793	761	9	17	41	817	943	9	19	229
Cadiz	773	656	16	15	31	764	725	14	22	121

Data Processing and Analysis

Both qualitative and quantitative methods were used for the evaluation study. Qualitative methods used for the performance evaluation were: participant-observation of key events and activities, in-depth interviews with key stakeholders, focus group discussions, and review of documents, including service statistics. The baseline and post-test surveys, consisting of household and facility surveys, and staff and client interviews, measured the essential outcomes of interest.

DESCRIPTION OF THE STUDY AREAS

Like most local government units in the Philippines, the municipal governments of Taytay, Rizal and San Carlos City in Negros Occidental recognize the need to address population issues as they relate to other issues affecting the wellbeing of their constituencies. Among others, health, social, economic and environmental conditions are often linked with growing population size, so measures to help reduce or alleviate expected future conditions are considered welcome. The MGP is positively viewed, therefore, as such a mechanism.

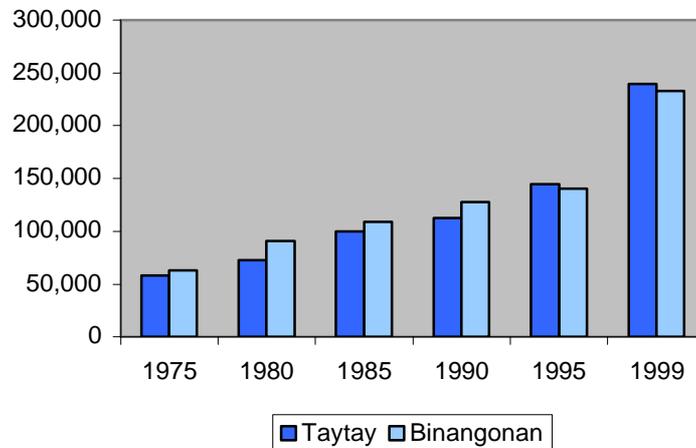
To provide a context for the evaluation study's population statistics, health budgets, and other relevant information obtained from the LGUs, the status of the health facilities in the study sites, as obtained from the city health office and health facilities, are described below.

Taytay and Binangonan

Population

Both Taytay and Binangonan are confronted with populations that have steadily increased over the past 25 years (see Figure 3). In the 1980s, a portion of Taytay near the Cainta-Pasig boundaries became a resettlement area for poor, urban residents from San Juan, metro Manila. The opening of the Manggahan Floodway along Taytay's southeastern side in early 1990s also resulted in rapid in-migration of people coming from the surrounding areas. These events pushed both the town's population size and population growth rates to high levels, especially during the 1995-99 period. The Floodway area and the resettlement site, known as San Lorenzo Ruiz, are both under Barangay San Juan. Binangonan experiences the same pattern. This phenomenon is explained by the heavy influx of migrants, many of whom were squatters from metro Manila, who were attracted to these areas because of proximity to their places of work and availability of affordable residential subdivisions.

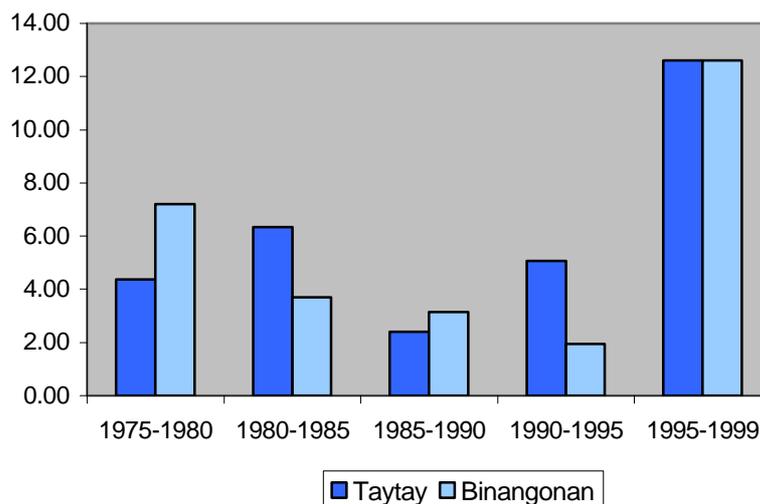
Figure 3. Population Size of Taytay and Binangonan, 1975-1999



Sources: Municipal Planning and Development Council, Taytay and Binangonan, 1995 Reports

Figure 4 shows that both sites experienced erratic growth rates since the second half of the 1970s, reaching a high level during the last decade. Binangonan started off with higher growth rates than Taytay in the 1970s, then experienced a rather steep decline in the 1980s and early 1990s, only to shoot up again to reach the same level as Taytay during the second half of the 1990s. In Binangonan, the conversion of agricultural lands to urban use, particularly from 1995 onwards, contributed to increased commercial opportunities and the development of service-oriented businesses, which ushered in a shift toward an employment-based economy.

Figure 4. Population Growth Rates of Taytay and Binangonan, 1975-80 to 1995-99



Considering land availability for growing populations, it appears that Taytay had nearly twice the population-to-land pressure (5,786 population per sq. km.) as Binangonan

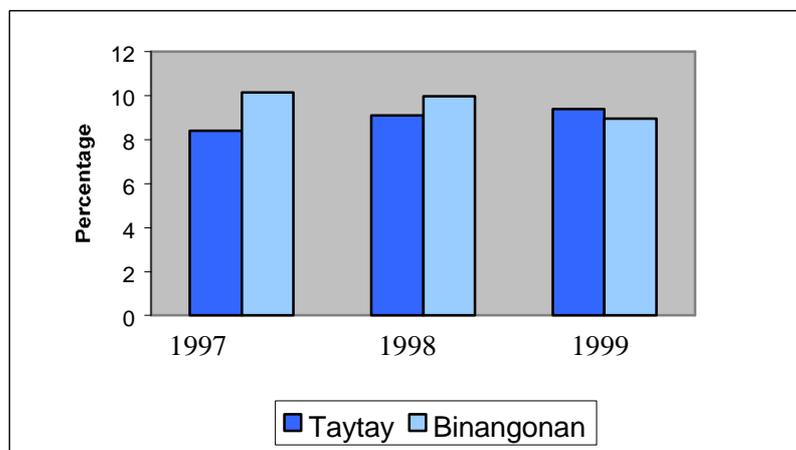
(3,203 population per sq. km.) in 1998. The population-to-land pressure in both municipalities will further intensify if the positive trends in population size and population growth continue in their present directions.

Health Infrastructure

Another obvious consequence of the increasing population size is the growing demand for health services. The budget allocation for municipal health services as a percentage of the total LGU budget has increased slightly but consistently in Taytay from 1997 to 1999, but declined slightly in Binangonan from 1998 to 1999 (see Figure 5).

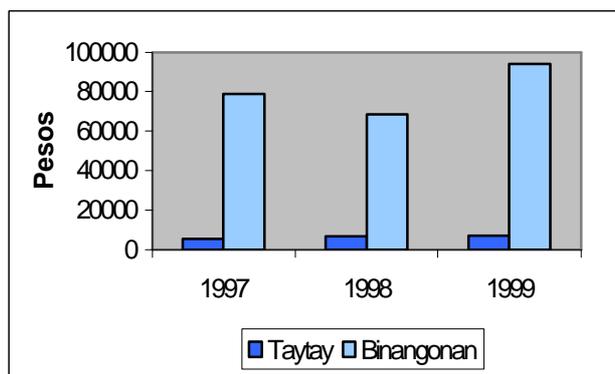
The health budget in Taytay has more than doubled in absolute terms over the past 4 years, from 3.2 to 6.8 million pesos (see Figure 6). In contrast, there was a 19 percent increase in the health budget of Binangonan from 79 million pesos in 1997 to 97 million pesos in 1999. However, the bulk of this increase was in personnel expenses. Unlike other LGUs (see other MGP Program Performance reports) including Binangonan, Taytay has spent a respectable 29 to 45 percent of its health budget on maintenance and operations. In general, other LGUs spend about 70 to 90 percent of their budget on personnel costs, usually leaving barely enough funds for supplies, medicines, travel and repairs.

Figure 5. Health Budgets of Taytay and Binangonan as Percentage of Total LGU Budget, 1997-99



However, Figure 6 shows a clear contrast in the absolute figure representing the budgets of the two sites. Binangonan clearly has a consistently higher budget for 1997-99 compared to Taytay. For example, the 1999 municipal health budget of Taytay has stayed on the level of below Ph 20,000 during the last three years while Binangonan’s budget ranged from Ph 80,000-90,000.

Figure 6. Municipal Health Budget of Taytay and Binangonan, 1995-2000



The two study sites were also slightly different when infrastructure for health services are considered³. In June 1999, there were only 46 employees in the Taytay Municipal Health Office, compared to 55 in Binangonan. The health provider to population ratios reveal a far from ideal situation, except for barangay health workers (see Table 4). Binangonan appears to be at advantage compared to Taytay, particularly in terms of the ratio of midwives and barangay health workers to the population. What stands out particularly is the critical need for trained personnel (physicians, dentists, medical technologists, pharmacists and nutritionists) in both sites.

Table 4. Municipal Health Personnel of Taytay and Binangonan, 1999

Health Personnel	Taytay		Binangonan	
	Number of Personnel	Ratio to Population	Number of Personnel	Ratio to Population
Physician	8	1 : 29,942	3	1: 77,612
Nurses	11	1 : 21,776	9 ^a	1: 25,871
Midwives	21	1 : 11,406	36 ^b	1: 6,468
Dentists	3	1 : 29,942	2	1: 116,418
Sanitary Inspectors	2	1 : 119,767	3	1: 77,612
BHWs	93	1 : 2,576	250	1: 931
MedTech	1	1 : 29,942	2 ^c	1: 116,418

^aFive are casual.

^bFourteen are casual.

^cOne is casual.

Source: Health Office of Taytay and 1999 FSHIS Annual Report of Binangonan

The seven barangays of Taytay are administratively divided into six Rural Health Units (RHUs) under the supervision of the Municipal Health Officer stationed at the Municipal Health Center. There are 38 Barangay Health Stations (BHSs), which are usually manned by midwives. Health services are also provided by more than 20 Ob/Gyn/Pedia/other clinics, five private lying-in clinics, and five Department of Labor and Employment facilities. On the other hand, Binangonan has four RHUs servicing at least seven barangays each. There is one BHS for each of the 39 barangays. Binangonan has one privately owned medical center. The nearest government hospitals are in the towns of Angono and Morong.

³ Data from this analysis were derived from the CHO.

MGP Indicators

Because there are no sources of health data other than the FHSIS, analysis of pre-intervention MGP indicators are derived from these figures. Taytay's records on the MGP health indicators during the five years prior to the MGP intervention are shown in Table 5, with comparative figures for Binangonan. As can be seen from the table, the trends are rather uneven, with Binangonan showing better performance for all indicators except for TT2+. Binangonan's CPR of 91 in 1999 raises the question of the reliability of the data, and therefore must be interpreted with caution. Vitamin A coverage (VAC) among the 12-59 month old children in Taytay suffered a low of 2.3 percent in 1999, down from a relatively high level of 88 percent in 1998. Health personnel explained that this was due to the late arrival of vitamin A capsules for the December 1999 *Garantisadong Pambata* operations.

Table 5. MGP Indicators, Taytay and Binangonan, 1998-1999

MGP Indicators	Taytay		Binangonan	
	1998	1999	1998	1999
CPR	48	30.4	31	91
TT2+	45	81.5	66	20
FIC	66	48	100	87
VAC	88	2.3	10	69

Source: Municipal Health Offices of Taytay and Binangonan Rizal

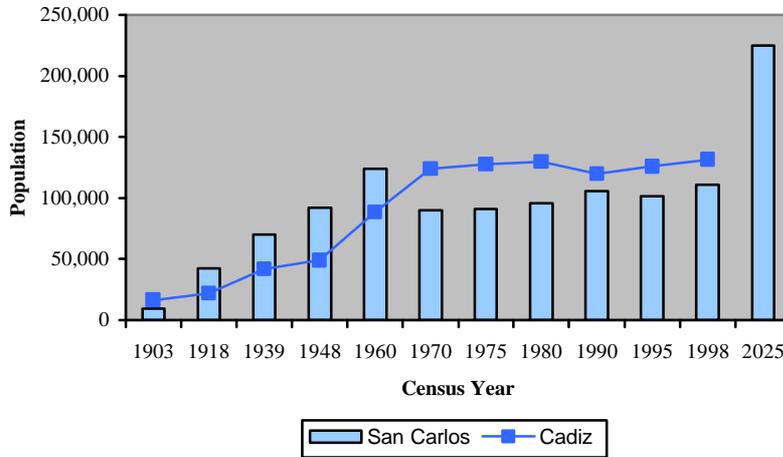
The two-year data from Binangonan also shows a sharp decline in tetanus toxoid coverage levels for pregnant women, which decreased from 66 percent in 1998 to 20 percent in 1999. The immunization coverage rates of children below 2 years of age for 1998 and 1999 were well within acceptable levels, but there was a drop in FIC rates over the period and a marked increase is observed in children's vitamin A coverage.

San Carlos and Cadiz

Population

The city government of San Carlos is faced with a population that has steadily increased over the past 30 years. Figure 7 shows that San Carlos appears to be less populated than Cadiz from the 1970s onward. However, it had a higher population-to-land ratio of 246, compared to 190 persons per square kilometer in Cadiz.

Figure 7. The Population of the Cities of San Carlos and Cadiz, 1903-2025



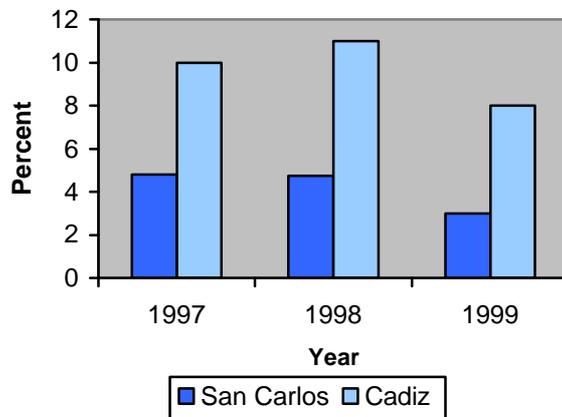
Source: Population Offices of the Cities of San Carlos and Cadiz

Moreover, from an estimated 110,000 population in 1998, the City Population Office of San Carlos predicts that its population will double by 2025. This suggests that both city governments have to start planning for such an eventuality, especially in the case of Cadiz with its higher population level and growth rate, with compounding implications for service requirements.

Health Infrastructure

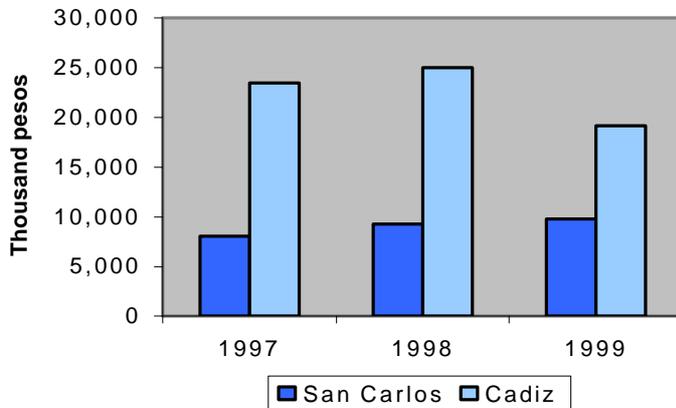
San Carlos City’s budget for health services accounts for about three to four percent of the total LGU budget (see Figure 8). Cadiz, in contrast, allocated a much larger share of its LGU budget for health services, although its share dropped from 11 percent in 1998 to 7 percent in 2000.

Figure 8. Health Budgets of San Carlos and Cadiz as Percent of LGU Budget, 1994-2000



Source: City Budget Offices, San Carlos City and Cadiz City, 1994-2000

Figure 9. San Carlos and Cadiz City Health Budget, 1995-2000



Source: City Budget Offices, San Carlos City and Cadiz City, 1994-2000

The budget's absolute value has remained fairly stable over the past five years (see Figure 9). Unlike other LGUs (see other MGP site specific performance reports), however, San Carlos City has spent a respectable 33 to 46 percent of its health budget on maintenance and operations. However, the large difference in health budget both as a percent of total LGU and in absolute pesos, where Cadiz came out at an advantage, may influence subsequent performance and output of the health programs in the two selected sites for the study.

In June 2000, there were 59 employees in the San Carlos City Health Office. The city's health providers to population ratios reveal a far from ideal situation except for its barangay health workers (see Table 6) and other volunteer workers. Evidently, there is a critical need for additional physicians, dentists, medical technologists, pharmacists, and nutritionists in the city.

In comparison, Cadiz had 54 health personnel and appears to be better off than San Carlos in terms of the ratios of health provider to population for doctors, nurses, dentists, medical technologists, dentists, and BNSs.

Table 6. Health Personnel of the Cities of San Carlos and Cadiz, June 2000

Health Personnel	San Carlos		Cadiz	
	Number	Ratio to population	Number	Ratio to population
Physicians	2	1: 55,487	16	1: 8,758
Nurses	11	1: 10,088	15	1: 9,341
Midwives	34	1: 3,264	10	1: 14,012
Dentists	2	1 : 55,487	3	1: 46,707
Medical technologist	1	1: 110,973	3	1: 46,707
Nutritionist	1	1: 110,973	1	1: 140,120
Pharmacist	1	1: 110,973	2	1: 70,060
Sanitary inspectors	7	1: 3130 ^a	4	1: 32,969 ^a
<i>Barangay</i> health worker	1036	1 : 21 ^a	375	1: 352 ^a
BSPOs	40	1 : 548 ^a		
<i>Barangay</i> nutrition scholars	32	1: 685 ^a	22	1: 5,994 ^a

^aMeasurement unit is per household

Source: City Health Office of San Carlos and Cadiz

Health services are provided in San Carlos City through its main health center (MHC/CHO), 20 barangay health stations (BHSs), three hospitals (two of which are run by the local government and one by a private group), and eight private clinics. The city health office, which houses the MHC (located on top of the city's public market), is a multi-service clinic offering the following: medical and nursing consultation, family planning, expanded program on immunization, maternal and child health care, dental, laboratory, social hygiene, sanitation and environmental, TB, CDD, ARI, rabies, leprosy, and mental health clinics. The office is responsible for the implementation of health programs and identification of specific activities. People can buy medicines and supplies over the counter in 10 pharmacies operating in the city.

Cadiz, on the other hand, also has its main health center, in addition to one emergency clinic, 20 barangay health stations, one district hospital, two medical X-ray clinics, one sputum/microscopy center, five ambulances, and eight drugstores. Eight private medical clinics, five dental clinics, one optical clinic, and two clinical laboratories complemented the public health facilities.

MGP Indicators⁴

San Carlos' pre-MGP performance in FP was quite low (see Figure 10). Its CPR was 18 percent in 1998, compared to 22 percent in Cadiz. San Carlos City's FIC and VAC rates were at acceptable levels, but they both declined from 1997 to 1998. The FIC and TT2+ dropped by four percent and 13 percent, respectively. The unsustained VAC in San Carlos was again due to the late and inadequate supply of vitamin A capsules from the DOH/PHO. In contrast, Cadiz City's FIC, VAC, and CPR were higher than San Carlos' in 1998. However, it recorded a lower TT2+ rate than San Carlos. These supply and distributional problems may influence impact measures for FIC and VAC.

⁴ Source: Municipal Health Offices

What seems to stand out at this point is the similarity in the socio-demographic and health characteristics between the program and comparison sites. Notable, however, is the rather advantageous position of the comparison sites in terms of their budget absolute value dedicated to health. As seen in the data, both Binangonan and Cadiz are spending a much higher budget than their comparison areas on health care, and they generally have an advantage in terms of the number of health personnel serving their catchment area.

Table 7. MGP Indicators, San Carlos and Cadiz, 1997-1998

MGP Indicators	San Carlos		Cadiz
	1997	1998	1998
CPR	18	18	22
TT2+	72	59	31
FIC	92	88	98
VAC	100	95	105

Source: City Health Offices of the Cities of San Carlos and Cadiz, 1997 and 1998

HEALTH INTERVENTIONS IN MGP AND NON-MGP AREAS

Health Interventions in Taytay and Binangonan

The municipality of Taytay received the amount of Php 500,000 (approximately US \$12,500) on January 12, 2000 to fund MGP activities, which were implemented beginning that month. The municipal government realigned its 2000 budget to supplement this grant with Php 100,000. Although the MGP implementation in Taytay covered the entire LGU, remote and rural barangays were given priority in the service delivery expansion.

The planning session held in Taytay on June 29-30, 1999 was facilitated by the MSH Field Coordinator (FC) and identified the following likely program challenges:

1. On the delivery of family planning services:
 - BHWs lack training on FP counseling.
 - Some RHUs cannot provide IUD services because they lack trained personnel or IUD insertion equipment.
 - No trained staff on NFP counseling and no facility to refer potential NFP clients.
 - Absence of a standard referral system for VSS clients.

2. On the delivery of immunization services:
 - Inadequate supply of vaccine, especially DPT. In 1999, for instance, Taytay received 70 percent of its allocation for the first quarter, 40 percent for the second quarter, and 55 percent for the third quarter.
 - Lack of information campaign or follow-up at the community level to inform people of available immunization services.
 - Other factors such as “laziness,” lack of time, lack of money to donate to the centers, and fear of reactions to immunization.

3. Limited number of weighing scales which delays micronutrient supplementation programs.
4. Absence of reliable and up to date information on target clients for family planning, tetanus toxoid immunization, EPI and vitamin A supplementation.

In order to respond to the program challenges, the Community-Based Monitoring and Information System (CBMIS) became the major MGP activity in Taytay. Thirty-five percent of its MPG funds were allotted for training and implementation of the system. Taytay mobilized its nurses, midwives, and more than 100 BHWs and other volunteers for the implementation of the CBMIS.

Other MGP intervention activities considered include:

- Integrating the provision of family planning and tetanus toxoid immunization services to eligible mothers of children attending day care centers and rural improvement clubs.
- Integrating the provision of TT2+ immunization to women attending pre-marital counseling (PMC) sessions. FP services are also provided as necessary. Women are referred to the nearest BHS or health center for needed services.
- Establishing linkages with private practitioners and the NGO-operated *Bahay Paanakan* (lying-in clinic). BCG immunization is provided to the newborns in the facility, and those needing subsequent antigens are referred to the nearest BHS.
- Provision of TT2+ immunization services in industrial establishments for pregnant and women with children less than five years of age.
- Provision of natural family planning services in all RHU of Taytay and in the main health center.
- Enhancing IUD insertion services in all RHU by training nurses and providing IUD kits.
- Mass vitamin A and iron supplementation among children in identified critical areas.

Four of these activities were new activities. Others, (i.e., pre-marital counseling and IUD services), are activities that were already being implemented but were slightly modified under the MGP. Mass vitamin A and iron supplementation are already being done under the *Garantisadong Pambata* program but have been included as MGP interventions.

Other equally intensive non-MGP programs were implemented in Taytay during the study period. These were the National Tuberculosis Program, Disease Surveillance (e.g.,

for dengue, measles), Animal Bites Prevention, Environmental Sanitation Activities and Operation *Timbang*.

Binangonan, on the other hand, has simultaneously implemented some innovative health interventions during the evaluation period. Some of these initiatives are:

1. The Micronutrient Supplementation and Food Fortification Program for women and children, which covers four sub-components, namely: vitamin A supplementation, iodine supplementation, iron supplementation and iodized salt distribution.
2. The Expanded Program for Immunization, which includes BCG, DPT, OPV, Measles, vitamin A., FIC, and Hepatitis B.
3. Regular provision of family planning.

There are also some NGOs that support the Municipal Health Office in the delivery of health services in Binangonan. One is SAFRUDI – an NGO that disseminates natural family planning and nutrition information, emphasizing herbal medicines, in all the island barangays. A religious group called Sisters of the Poor sponsors medical missions monthly. Other groups active during medical missions and mothers' classes include GINHAWA, the Rural Improvement Club, and the Women's Club. However, the thrusts of these groups involve environmental sanitation and nutrition. Civic organizations like the Rotary Club and the Lion's Club also assist in medical missions. From March 1999 to June 2000, other health programs functioning strongly in Binangonan were *Tutok Gamutan* (TB and dengue case finding) and the anti-rabies campaign.

Health Interventions in San Carlos and Cadiz

San Carlos City in Negros Occidental received Php. 400,000 (approximately US\$10,000) on September 28, 1999 to fund MGP activities conducted from December 1999 to December 2000. The City's counterpart fund totaled Php. 770,610, which was nearly double the MGP funds received. As in the case of Taytay, San Carlos' MGP covered the entire LGU, but there was a conscious effort to target remote and rural barangays in the service delivery expansion.

The planning activities in San Carlos led to the following MGP activities that were undertaken in the city to address weaknesses and gaps in its health system:

- Community-Based Monitoring and Information System (CBMIS)
- Maximizing Rural Outreach of Government Entities for Health. Rehabilitation (ROGEHR) Days.
- Procurement of additional vaccines in support of the regular immunization day.
- Expanding FP service by providing natural family planning at the main health center.

- Schedule and accompany clients for IUD insertions/VSS in city and district hospitals.
- NGO collaboration for VSS and Pap smear services for indigent clients.
- Service provision of immunization for mothers and children during the Well-Baby Contest registration; and
- Service provision of FP methods to parents during the Responsible Parenthood Contest registration.

The CBMIS is a primary intervention for gathering baseline information on health status and condition of the community with a service delivery component that includes referrals, giving re-supply, and FP counseling. Barangay or community health workers (BHWs) were trained and supervised by nurses and midwives for data enumeration and updating of family profiles on a monthly basis. The information was then reported to service providers in the community for necessary and appropriate action.

The Rural Outreach of Government Entities for Health Rehabilitation (ROGEHR) days in rural communities were supplemented by the deployment of two roving teams composed of a medical doctor, dentist, nurses, midwives, sanitary inspector, and laboratory technician. Aside from the four MGP program targets, services such as dental care, general consultation, counseling, provision of medicines, and re-supply of contraceptives are made available and accessible to remote areas.

Aside from these major activities, San Carlos has conducted coordination meetings and monitoring to assess program implementation. This activity covered updates on the progress of program implementation, elicited feedback, and provided immediate solutions to problems and issues that occurred in the implementation. Table 8 summarizes the changes in service delivery in San Carlos as a result of the MGP process.

Besides these initiatives, programs on communicable diseases were intensified during the MGP period as part of CHO's health plan was to address the increasing mortality and morbidity rates in the city. Information dissemination and master listing for TB, leprosy, and malaria cases were tied with the CBMIS implementation. Health workers were also required to submit at least four sputum tests for "suspected" clients weekly.

Garantisadong Pambata activities in San Carlos were not as active as in Cadiz because of repeated delays in the delivery of vitamin A capsules and vaccines from the provincial health office. The *Rotary Club International* helped in vitamin A supplementation for school children.

Because most private clinics in the city do not offer TT2+, clients are referred to the CHO. As part of its Maternal and Child Health Program, the CHO takes advantage of the "captive group" (mothers who go to the CHO for either post-natal or prenatal care, or for

Table 8. Comparative CHO service delivery in the pre-intervention and MGP periods

Activities	Schedule	
	Pre-MGP	MGP
Routine / Regular - Family Planning Services Main Health Center (CHO) - EPI Main Health Center (CHO) Buluangan BHS Quezon BHS Rizal BHS Other Rural BHSs - Prenatal Care and Tetanus Toxoid Immunization Main Health Center (CHO) Rural BHSs	Everyday Every Wednesday a.m. Every Wednesday Every Wednesday Every Wednesday Twice a week - every Monday & Friday	Everyday Every other week* (Wednesday) Twice a month Twice a month Once a month Twice a week - every Monday & Friday Once a week
Medical Outreach - ROGEHR Day	2-3 times a week or as scheduled	2-3 times a week or as scheduled - integrated FP, TT2+, EPI, and VAC services
Dental Consultation (CHO)	Daily	Daily - integrated during ROGEHR Day
Master listing / Community-Based Monitoring and Information System (CBMIS)	-	Started February 2000 Monthly updating/follow-up of clients
Mop-up operation	-	Right after FHDs-home visit/follow-up target clients who failed to come on schedule
Social Hygiene Clinic Provision of condoms and TT shots Follow-up of clients	Every Thursday	Every Thursday
Pre-Marriage Counseling Integration of FP and TT immunization	Every Thursday	Every Thursday
De-worming	Every 1 st Thursday of the month	Every 1 st Thursday of the month
Other Health Programs NTP Rabies Control DCC Mental Health	Monday – provision of medicine Everyday Everyday Quarterly visitation of National Mental Health team	Every Monday – DOTS Everyday Everyday Stop due to unavailability of funds

*Due to inadequate and late delivery of antigens from the DOH/PHO.

other health services) to provide TT shots for eligible women. In December 1999, the CHO of San Carlos City retired. She was a prime mover of the MGP initiative in the city, hence a sense of uncertainty pervades in the mind of the MGP Coordinator with

regard to the level of support that she will receive from the new health leadership in San Carlos.

Program initiatives in Cadiz that were ongoing during the evaluation period include the following:

- The *Tri-Media Campaign* is radio program that disseminates information on health and DOH activities that has been regular in Cadiz since 1993. The *Cadiz Bulletin*, a quarterly publication of the LGU that contains information on LGU activities and special column on health, has been one of the sources of information among NGOs, Barangay Council and health workers since 1993.
- The presence of two private clinics (Well Family Midwife Clinic) in Cadiz (one in the city proper and another in Barangay *Tinampaan*) helps in the promotion of FP. The FP Coordinator of Cadiz gets information from these private clinics and integrates FP records into the CHO accomplishment reports.
- Midwives are given EPI allowance (Php 500.00).
- BHWs employ the “cafeteria style” promotion of family planning methods (clients are informed of the different methods and make the decision themselves). Pills and IUD were the more popular choices of clients.
- In 1999, 20 contractual midwives and nurses and two permanent midwives were hired.
- In 1999 there was a five-day training on basic FP conducted for permanent midwives. Logistical support significantly helped in the facilitation of service delivery. Available vehicles helped in the delivery of services in rural areas. Also in the same year, funds from the Philippine National Aids Council (PNAC) were used to facilitate dissemination activities and trainings, and the formation of a multi-sectoral council responding to STD/AIDS-related concerns.

COMMUNITY BASED INFORMATION SYSTEM

Implementation of the CBMIS in Taytay

A household survey was conducted in the LGU between March and May 2000 to launch the CBMIS. However, Barangay San Lorenzo Ruiz, which did not have enough BHWs for its 34,500 population, covered only three percent of its population as of June 2000.

Considerable delays were encountered because of poor roads and lack of basic survey forms. Follow-up and accomplishment tracking were also problematic for urban poor resettlement areas in at least two *barangays* as a result of the high mobility of migrants in these areas. There were problems in implementing the system because BHWs were reported to have difficulty in understanding, classifying and responding to women with unmet need for FP. Specifically, they had trouble categorizing as modern or as traditional some of the unfamiliar FP methods.

Provision of TT immunization to eligible mothers of children attending Day Care Centers

Initial results of this intervention (see Table 9) show that after six months of implementing MGP activities, only 150 mothers have attended lectures and few have actually availed of services.

Table 9. Inputs-Processes-Outputs Information for the MGP TT Immunization to Eligible Mothers of Children Attending Day Care Centers (DCC)

Inputs	Process	Outputs
<p>From LGU</p> <ul style="list-style-type: none"> • Staff time <p>From Barangay officials</p> <ul style="list-style-type: none"> • Use of DCC <p>From MGP</p> <ul style="list-style-type: none"> • Supplies • Snacks • Karaoke (as PA system) <p>From DIRFO/ PHO</p> <ul style="list-style-type: none"> • Vaccines and supplies 	<ul style="list-style-type: none"> • Schedule of lectures depended on DCC schedule • No actual services delivered at DCC but referrals were made • Money from snacks advanced by midwives • Many mothers who attended are already FP users 	<ul style="list-style-type: none"> • Seven classes attended by 150 mothers were held as of June 2000 • In one HC, 11 out of 25 mothers who attended were given TT at the HC

Source: Field notes

Provision of TT immunization to women attending the pre-marital counseling at the Main Health Center

Pre-marital counseling is held every Tuesday and Thursday at the Main Health Center. As part of the MGP, TT immunizations were provided to eligible women after a discussion on its importance. The output indicators are shown in Table 10. The desired impact on MGP program indicators has not been attained in terms of the number of women given TT. Even if all women attending the counseling sessions were given TT, only about 1,000 women would be provided the service each year.

Table 10. Inputs-Processes-Outputs Information for the provision of MGP TT Immunization to Women Attending the Pre-Marital Counseling at the Main Health Center

Inputs	Process	Outputs
<p>From LGU</p> <ul style="list-style-type: none"> • Staff time <p>From MGP</p> <ul style="list-style-type: none"> • Funds for TV and VHS • Printing of TT cards <p>From DIRFO/ PHO</p> <ul style="list-style-type: none"> • Vaccines and supplies 	<ul style="list-style-type: none"> • “Counseling” actually consists of lectures of various topics including TT • All women except those in first trimester of pregnancy are offered TT • Women generally accept TT immunization • Names are recorded and women are told to follow-up and are provided TT cards 	<ul style="list-style-type: none"> • Twenty-eight PMC sessions held with 372 women, of whom 220 are in the first trimester • Eighty-three women given TT1, four of whom were >5 months pregnant • TT2 = 1, TT3 = 2, TT4 = 0, TT5 = 7 • No. who refused immunization = 2

Provision of TT immunization to clients referred by private clinics and by Bahay Paanakan (an NGO health facility)

Linkages were established with the Taytay-Angono-Cainta Doctors Association, however, the municipal health officer was skeptical about the participation of private physicians, who are wary of the controversies surrounding TT and feel they are practicing aseptic techniques during delivery.

This intervention does not require any additional input from the MGP because the vaccines and supplies come from the PHO. About 56 women were referred for TT immunization and 31 (55%) were actually given the vaccine. Twenty-three of these women received two or more doses of TT.

Provision of IUD services to RHUs – training on FP Levels 1 and 2

A nurse and midwife joined the training team in June 2000. One of the nurses, who is a trainer for NFP, will conduct IUD training on a staggered basis starting in June 2000. The IUD kits and other materials have been purchased but have not been distributed as of March 2000. This intervention used 46 percent of Taytay's MGP grant, with the IUD kits alone accounting for 19.3 percent of the total budget.

Updates on other planned activities

Four of nine planned MGP intervention activities of Taytay have not been implemented as of June 2000. With less than half of the activities implemented when the impact study was conducted, it seems premature to assess the impact of the MGP on health indicators in Taytay or to compare its performance with Binangonan.

There are also misconceptions about MGP activities and confusion between these activities and existing ones. The provision of vitamin A and iron supplements to children in two critical areas (Floodway and San Lorenzo Ruiz) could not be distinguished from the regular DOH bi-annual *Garantisadong Pambata* program. During the program update in April 2000, the acting municipal health officer decided to concentrate efforts on the CBMIS. He did not want midwives and BHWs to be distracted by other duties, so the interventions were delayed until June 2000.

Additionally, there were insufficient supplies for the implementation of the project. For example, there were not enough syringes to carry out TT immunizations. These problems should be kept in mind when interpreting MGP measures, as they were not totally within the local government's control.

CBMIS Implementation in San Carlos

The CBMIS project in San Carlos City began with the training of trainers (the FP Coordinator and the Population Officer) in November 1999, followed by health provider

orientation between December 1999 and February 2000. Surveying started in mid-February 2000. The time spent per interview depended largely on the number of children the respondent had and her ability to recall events and locate the pertinent cards. Most mothers had their yellow children's health and immunization record and pink maternal birth record cards.

Midwives performed monitoring and supervision and initially viewed the CBMIS as an additional load. Together with the nurses, midwives were responsible for data validation, processing and consolidation. The family planning coordinator at the city health office took charge of the over-all coordination and consolidation, with technical assistance from MSH field coordinators and Population Council staff. The first round of surveys, covering 18,976 women of reproductive age and 13,571 children less than six years of age, was completed by the end of April 2000. Consolidation at the barangay and city levels took two weeks each.

Barangay health workers used the information from the CBMIS to update their records of households in their assigned areas. Immunization and family planning patients requiring follow-up were referred to the BHS, while condoms and pills were re-supplied as needed. However, several barangay health workers were observed to have difficulty understanding the unmet need classifications, which may account for their inability to take appropriate action. Problems also occurred collecting information on immunization of children below one year of age.

Table 11 summarizes the data for the inputs-processes-outputs on CBMIS in San Carlos City. Other outcomes attributed to the CBMIS included: 102 referrals from the BHS to the city health office for family planning services; 56 referrals to the city hospital, and 21 referrals to an NGO clinic for pap smears.

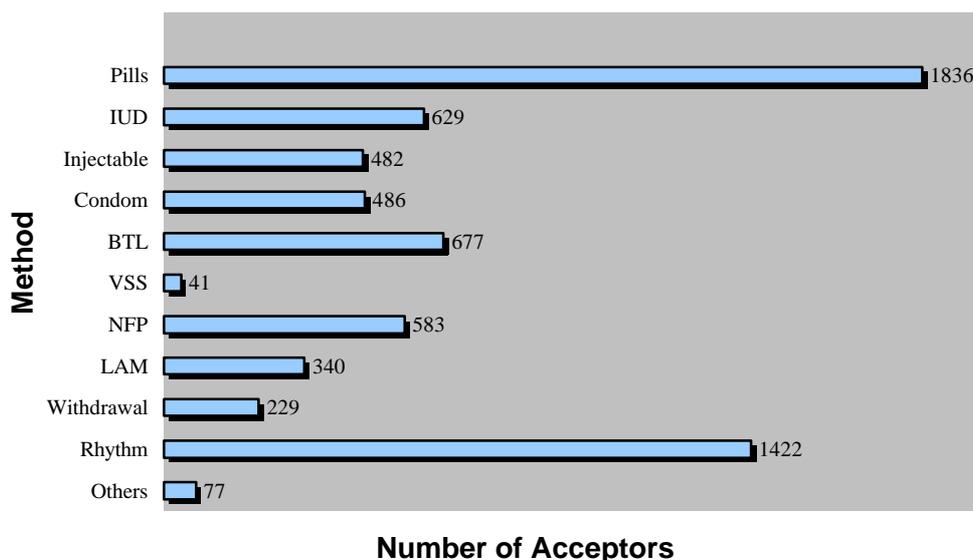
Health providers appreciated the first set of data from the CBMIS exercise providing them with current information about their performance and on priority clientele.

Family planning use is surprisingly high at 47.5 percent, compared with data from the 1998 FHSIS report indicating a rate of 17.6 percent. Despite high coverage, unmet need is also high (31%), particularly among women who wanted to space or limit their children. Information on family planning acceptors by method is shown in Figure 10.

Table 11. Inputs-Processes-Outputs Information for the MGP CBMIS, San Carlos City

Inputs*	Process	Outputs**
<p>From LGU</p> <ul style="list-style-type: none"> • Staff time • BHWs' honorarium • Additional materials for form reproduction • Use of mimeo machine for form reproduction <p>From Barangay officials and community</p> <ul style="list-style-type: none"> • Assistance in locating households • Cooperation in survey conduct <p>From MGP</p> <ul style="list-style-type: none"> • Supplies and materials for forms • Training expenses • Incentives for BHWs <p>From DIRFO/PHO</p> <ul style="list-style-type: none"> • Technical assistance • Liaison with MSH <p>From MSH</p> <ul style="list-style-type: none"> • Technical assistance 	<ul style="list-style-type: none"> • Training and orientation of all health providers conducted in several batches took two months • Reproduction of tools hampered by revisions to the form midway through printing, causing shortage of forms and delays in the survey, as well as additional costs for reproduction • 180 BHWs conducted survey; interviews took an average of 15 minutes • Surveying facilitated by BHW experience and training, LGU support and CHO staff commitment, and TA from SH & PC • Surveying delayed by form reproduction, unavailability of respondents, poor respondent recall, and geographic factors • Consolidation took one month • Data clarification and verification on-going 	<ul style="list-style-type: none"> • Children 0–11 months = 2,750 • 9 months with incomplete or no immunization = 283 • No. of FIC = 478 (17.4%) • Children 12–59 months = 10,787 • With incomplete immunization = 2,441 • Vitamin A Coverage (VAC) = 4,762 (44.0%) • Not given vitamin A in last six months = 6,321 • Women of reproductive age = 19,026 • Pregnant women = 1,655 • Pregnant with TT for life = 474 • With incomplete or no TT2 = 1,207 • Non-pregnant women = 13,872 • With incomplete or no TT2 = 8,207 • Single women of reproductive age = 5,676 • TT2+ coverage = 1,431 (86.5%) • Married women of reproductive age = 14,383 • Unsatisfied users of FP = 177 • Non-FP users wanting to space/limit = 4,306 • Want child soon = 1,627 • MWRA with unmet need for FP = 4,483 (31.0%) • MWRA current FP users = 6,839 (47.5%)

Figure 10. Distribution of Family Planning Acceptors by Method, San Carlos City CBMIS June 2000



There were concerns expressed regarding the appropriate denominator to use in the CBMIS indicators. For example, health workers were unsure whether they should use actual figures from the survey or derived figures from population estimates as the denominator for coverage figures. Other concerns: which numbers to use in calculating the numerator for unmet need, and which numbers to use for the number of women of reproductive age (WRA) and the number of married women of reproductive age (MWRA). These issues are currently are being tackled by program management.

Table 12 shows significant differences between the FHSIS (facility-based data using population estimates as denominators) and the CBMIS data. These comparisons have implications for estimating family planning supplies (underestimated) and immunization services (over-estimated, particularly for tetanus toxoid) for this particular evaluation, and on the sample size estimates for the impact evaluation survey. Despite these limitations, it is clear that many at the local level view the CBMIS as useful for program planning to address unmet needs.

Table 12. Comparison of FHSIS and CBMIS Data

Target Population	FHSIS Estimate (2000)	CBMIS Data (Feb-April 2000)	Difference
Children 0-11 months	3,329	2,750	579
Children 12-59 months	12,762	10,821	1,941
MWRA	13,316	18,976	-5,660
Pregnant women	3,889	1,655	2,234

The ROGEHR days

Through the MGP, the city health office has strengthened and maximized its existing medical outreach activity, known as Rural Outreach of Government Entities for Health Rehabilitation (ROGEHR) days. Two contractual nurses were hired to supplement existing staff available for these activities. The city health office scheduled interventions in each BHS, with more remote areas given priority.

CBMIS data is used to identify priority clients for each of the services, as well as to assess the volume of supplies needed. The nurse/midwife and barangay health worker in charge of the BHS prepared the community venue for the activity with assistance from the barangay captains. They also distributed reminder slips to women and children determined to be in need of services. Figure 11 illustrates the flow of activities during ROGEHR days. In the afternoon, midwives visited clients who failed to come in the morning in their homes with the help of barangay officials.

Problems encountered during ROGEHR days were: inadequate supply of vaccines due to unanticipated migrant clients in need of services; lack of facilities and trained staff for

tubal ligation referral; clients in remote areas had difficulty accessing natural family planning counseling sessions, limiting their options to modern methods.

Figure 11. Schematic flow of activities during ROGEHR Days, San Carlos City

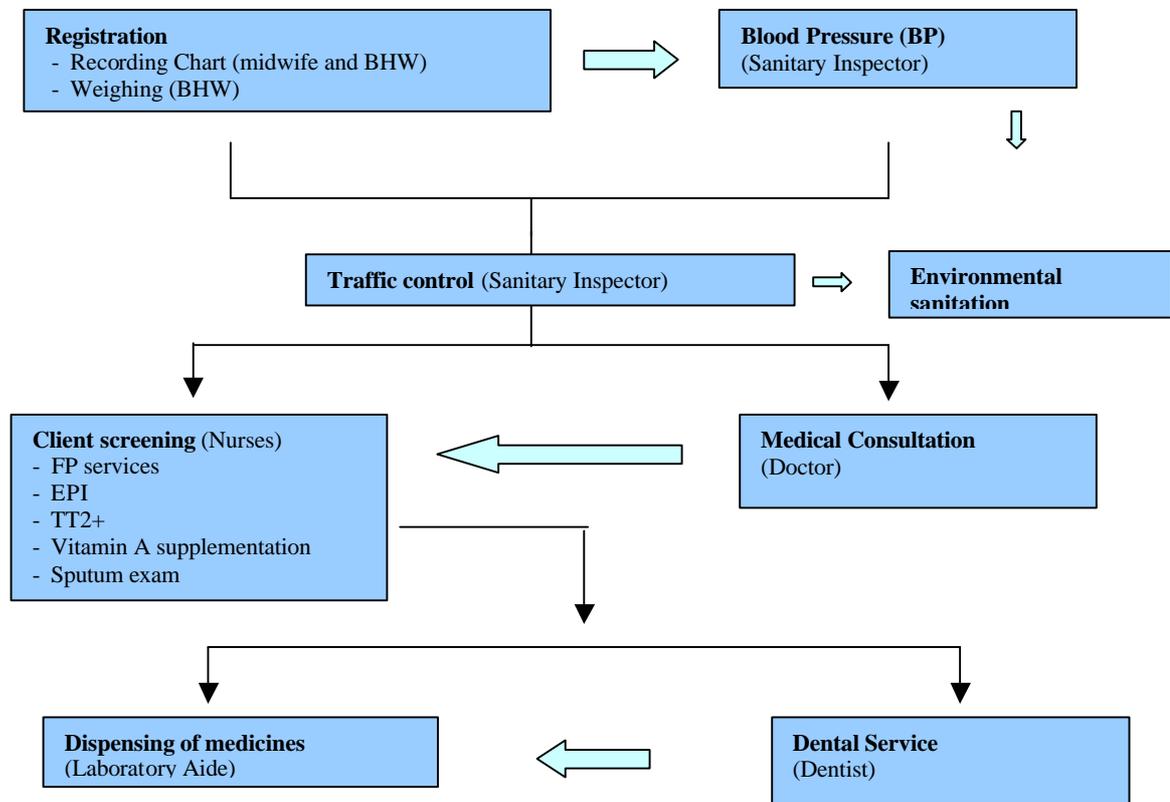


Table 13 shows the inputs-processes-output information for the implementation of the ROGEHR days program. At the time of the evaluation, the level of outputs derived from these activities seems minimal and has little discernible impact on the overall program performance.

IMPACT EVALUATION

Taytay versus Binangonan

This section of the evaluation study aims to ascertain whether significant improvements in health services provision and delivery were made through the MGP. Data collected using Forms 1 and 2 were used in this analysis by comparing changes in indicator levels between pre- and post-intervention in the experimental (Taytay) and the control (Binangonan) sites. A total of 762 and 778 women of reproductive age (WRA) from Taytay participated in the baseline and endline surveys, respectively. The corresponding numbers of respondents from Binangonan were 768 and 803 WRA.

Table 13. Inputs-Processes-Outputs Information for the MGP ROGEHR Days, San Carlos City

Inputs	Process	Outputs
<p>From LGU</p> <ul style="list-style-type: none"> • Staff time • Additional nurses • Transportation • Drugs and medicines • Paper and other recording supplies <p>From barangay officials and community</p> <ul style="list-style-type: none"> • Venue • Food for health team • Information and mobilization • Pap smear lab fee from SCC Women’s Council <p>From MGP</p> <ul style="list-style-type: none"> • Gasoline, oil and auto lubricants • Maintenance and repair of vehicles • Procurement of additional vaccines <p>From DIRFO/PHO</p> <p>Vaccines, gloves, syringes and needles</p> <ul style="list-style-type: none"> • Refrigerator (LPP base grant) • Contraceptive supplies <p>From MSH and Population Council</p> <ul style="list-style-type: none"> • Technical assistance and feedback 	<ul style="list-style-type: none"> • Existing program strengthened • Considerable coordination and logistical preparation needed for each ROGEHR day • Services provided include: family planning, child and maternal immunizations, vitamin A supplements, medical consultations, and dental services • Follow-up and referrals given for services that could not be given at the time • Lack of referral center for tubal ligation services noted • Access to natural family planning service in remote areas emerged as an unmet need • Inadequate supplies and delayed deliveries hampered operations • Limited number of trained IUD service providers 	<ul style="list-style-type: none"> • Thirty-nine ROGEHR Days conducted as of May 2000 • Twenty-one Pap smear fees covered by SCC Women’s Council • Performance coverage being consolidated by the city health office

Table 14 shows that the distribution of female respondents by reported civil status changed significantly over the period of observation in both study sites. Although the majority of respondents were legally married, the proportion of married women increased by 14.9 and 13.2 percentage points in Taytay and Binangonan, respectively. Women in consensual unions declined over the period by about 10 and six percent in the two areas.

Binangonan reported a larger proportion of never married women than Taytay. Binangonan experienced a 4.9 percent decline in the proportion of single or never married women, while Taytay had only a three percent corresponding decline.

Family Planning

In both municipalities, the majority of women who were not pregnant at the time of the interview did not express a desire to have another child (see Table 15). Proportions in both sites increased over the study period and Taytay's proportion of women who want another child declined significantly. Whether this decline can be linked to the MGP activities is far from certain.

Table 14. Distribution of Women, by Reported Civil Status in Taytay and Binangonan (percent)

Civil Status	Taytay		Binangonan	
	Baseline	Endline	Baseline	Endline
Single/Never Married	29.1	26.2	34.1	29.1
Legally Married	55.0	69.9	53.2	66.4
Living Together	12.9	2.5	9.1	3.1
Separated/Divorced	1.3	1.4	1.9	1.4
Widowed	1.7	0.0	1.7	0.0
Total MWRA	70.9	73.8	65.9	70.9
Total WRA	100.0	100.0	100.0	100.0
No. of WRA	762	768	778	803
Pearson Chi-Square	82.0***		53.1***	
Degrees of freedom	4		5	

***p<.001

Table 15. Distribution of Women by Reproductive Intention, Taytay vs. Binangonan (Percent)

Do you want to have another Child?	Taytay		Binangonan	
	Baseline	Endline	Baseline	Endline
Yes	15.7	14.2	13.9	12.4
No	44.8	48.0	44.1	48.9
Don't know	0.5	3.5	1.7	3.0
NA (Currently Pregnant)	39.0	34.2	40.4	35.7
Total	100.0	100.0	100.0	100.0
N	762	768	778	804
Pearson Chi-Square	20.7***		7.8+	
Degrees of freedom	3		3	

+p<.01, ***p<.001

The contraceptive prevalence rates (CPRs) in Taytay for modern methods appear to have increased slightly whether the denominator used is MWRA or WRA, but the CPR suggests an overall decline for all family planning method use. In the control area, the CPRs for modern and all methods declined as well. Nevertheless, these trends and any other relevant comparisons across area or over time failed to reach statistical significance (see Table 16). Comparisons using an alternate modeling strategy (i.e., pooled binary logistic regression models with interaction effects), which also incorporated relevant control variables like marital status, pregnancy status, and reproductive intention, did not highlight notable changes in CPRs.

Table 16: Contraceptive Prevalence Rates (CPRs) and Z-scores for Statistical Comparisons, Taytay and Binangonan

	Taytay		Binangonan	
	Baseline	Endline	Baseline	Endline
CPRs	(A)	(B)	(C)	(D)
Modern methods				
MWRA	31.30	32.45	32.94	30.23
WRA	22.44	23.96	21.98	21.42
All Methods				
MWRA	52.59	48.50	50.68	45.69
WRA	37.66	35.81	33.68	32.38
STATISTICAL COMPARISONS	(C) - (A)	(D) - (B)	(D) - (C)	(B) - (A)
Modern methods				
MWRA	0.22	-0.28	-0.36	0.15
WRA	-0.06	-0.31	-0.07	0.18
All Methods				
MWRA	-0.24	-0.33	-0.61	-0.49
WRA	-0.42	-0.37	-0.14	-0.20

There was a significant difference in the distribution of women who used family planning methods in Taytay over the study period, but no distributional difference was observed in the control site (see Table 17). Taytay showed a larger increment in the proportion of modern method users (8.8%) compared to the control area (0.9%). Among modern methods used before MGP activities started, the pill, tubal ligation, and injection were more prevalent in Taytay. After the study period, Taytay registered a higher proportion of tubal ligation, injection, condoms and IUD users, while in Binangonan there was an increase in the proportion of pill, IUD, condom and injection users. The increase in the proportion of ligated women in Taytay reflects the success of strengthened referrals. After the CBMIS was conducted in Taytay, the first activities implemented were lectures emphasizing the shift from traditional to modern methods.

Maternal Health

During both surveys, Taytay had relatively higher proportions of women who had received Tetanus Toxoid immunization than Binangonan (see rates based on WRA and MWRA in Table 18). However, Taytay initially had a lower TT2+ rate than Binangonan. The TT2+ rate represents the proportion of pregnant and married women of reproductive ages and mothers of children under 5 years of age who have received at least two doses of tetanus toxoid.

Table 17. Distribution of Family Planning Users by Method Type, Taytay and Binangonan

Family Planning Method	Taytay				Binangonan			
	Baseline		Endline		Baseline		Endline	
	N	%	N	%	N	%	N	%
Modern Methods	171	59.6	184	67.4	171	65.3	172	66.2
Pill	76	26.5	64	23.3	64	24.4	70	26.9
IUD	9	3.1	11	4.0	17	6.5	22	8.5
Injections	26	9.1	31	11.3	10	3.8	11	4.2
Condom	6	2.1	16	5.8	5	1.9	8	3.1
Tubal Ligation	54	18.8	62	22.5	75	28.6	61	23.5
Traditional Methods	116	40.4	89	32.6	91	34.7	88	33.8
Calendar/Rhythm/ Periodic Abstinence	58	20.2	33	12.0	35	13.4	39	15.0
LAM	-	-	-	-	-	-	1	0.4
Withdrawal	48	16.7	53	19.3	43	16.4	44	16.9
NFP	3	1.0	3	1.1	10	3.8	4	1.5
Others	7	2.4	-	-	3	1.1	-	-
NI	-	-	2	0.7	-	-	-	-
Total FP Users	287	100.0	275	100.0	262	100.0	260	100.0
Pearson Chi-Square	22.6**				9.9			
Degrees of freedom	9				9			

***p<.001

Notable is a reversal of Taytay's TT2+ situation, which may be attributed to the MGP intervention. Taytay significantly improved its TT2+ rate from 53-75 percent over the study period, while a deterioration was observed in Binangonan. During the intervention period, there were intermittent decreases in vaccine supplies in Taytay. Therefore, pregnant women were given priority. Many single women refused immunization. In Binangonan, however, many single, working, and women less than five months pregnant received shots, which were not captured in the TT2+ rates measured here.

Table 18. Tetanus Toxoid Immunization, Taytay and Binangonan

Classification of Women	Taytay		Binangonan	
	Baseline	Endline	Baseline	Endline
TT RATES	(A)	(B)	(C)	(D)
WRA	57.8	57.3	45.6	52.1
MWRA	80.5	75.0	52.4	70.0
MWRA with children less than 5 years (TT2+ rate)	53.1	75.0	72.7	38.1
TEST COMPARISONS	(C) - (A)	(D) - (B)	(D) - (C)	(B) - (A)
WRA	-1.2	-0.5	0.7	-0.1
MWRA	-16.6 ***	-2.8 **	10.4 ***	-3.1**
MWRA with children less than 5 years (TT2+ rate)	13.9 ***	-22.3 ***	-25.8 ***	12.2***

p<.01, *p<.001

Child Survival

There were 647 children covered by the Taytay baseline survey and 518 by the Binangonan survey. The post-intervention survey included 640 and 556 children of MWRA in the two cities, respectively. The age distribution of the children is shown in Table 19. In neither of the sites were the distributions significantly different, implying comparability of child-based indicators with the absence of age selectivity in the samples.

Table 19. Distribution of Children by Age (in months), Taytay and Binangonan (Percent)

Age (in months)	Taytay		Binangonan	
	Baseline	Endline	Baseline	Endline
0-2	4.6	5.3	4.1	7.9
3-5	4.0	4.5	4.8	5.8
6-11	5.7	8.8	8.7	8.6
12-23	16.8	14.1	16.8	15.5
24-35	15.8	17.3	14.3	14.0
36-47	12.5	14.2	13.3	13.3
48-59	16.1	13.1	13.7	12.6
60-71	13.6	11.1	13.0	13.8
71-84	10.8	11.6	11.2	8.5
Total	100.0	100.0	100.0	100.0
N	647	640	517	556
Pearson Chi-Square	11.1		9.8	
Degrees of freedom	8		8	

*** p<.001

The proportion of children immunized in the experiment area of Taytay increased from 90.9 percent to 93.9 percent over the study period. The proportion of immunized children in the control site, however, was relatively similar in both surveys, (i.e., 94.4% and 93.5%). Taytay and Binangonan were relatively similar in Fully Immunized Children (FIC) rates at the start of the study period (see Table 20). Both municipalities made significant strides toward improving their FIC rates. However, the proportion of fully immunized children in the intervention area at the end of the study period was significantly higher than in the control.

Table 20. Fully Immunized Children (FIC), Taytay and Binangonan (Percent)

	Taytay		Binangonan	
	Baseline (A)	Endline (B)	Baseline (C)	Endline (D)
FIC RATES	20.2	36.7	21.8	44.2
	(C) - (A)	(D) - (B)	(D) - (C)	(B) - (A)
TEST COMPARISONS	0.6	2.3 *	7.2 ***	5.2 ***

*p<.05, ***p<.001

Nutrition Services

Taytay's vitamin A coverage (VAC) of children age 12-59 months was significantly higher (74.2%) than Binangonan's (62.5%) during the baseline survey, with nonsignificant changes thereafter. Taytay experienced a slight increase in VAC, while Binangonan had a modest decline (see Table 21) despite the insufficient supply of vitamin A capsules during the last quarter of 1999.

Table 21. Vitamin A Coverage (VAC), Taytay and Binangonan (Percent)

	Taytay		Binangonan	
	Baseline	Post-Intervention	Baseline	Post-Intervention
	(A)	(B)	(C)	(D)
VAC RATES	74.2	75.0	62.5	61.7
	(C) - (A)	(D) - (B)	(D) - (C)	(B) - (A)
TEST COMPARISONS	-2.0 *	-2.2 *	-0.1	0.1

*p<.05

San Carlos versus Cadiz

Data collected using Forms 1 and 2 were used in this analysis for San Carlos and Cadiz comparing changes in indicator levels between pre- and post-intervention in the experimental and the control sites.

A total of 793 and 817 women of reproductive age (WRA) from the experimental area of San Carlos City participated in the baseline and post-intervention surveys, respectively (see Table 22). The corresponding numbers of respondents from the control area of Cadiz City were 581 and 616 WRA.

Table 22 shows that the distribution of female respondents by civil status has changed significantly over the period of observation in both study sites. The majority of respondents were legally married. The proportion of these women increased by 8.2 and 10.2 percentage points in San Carlos and Cadiz, respectively. Women in consensual unions declined over the period by about five percent in both areas.

Cadiz recorded a larger proportion of never married women respondents than San Carlos. Cadiz experienced a 5.5 percent decline in the proportion of single or never married women, while San Carlos had only about one percent corresponding decline.

Table 22. Distribution of Women by Civil Status, San Carlos and Cadiz (Percent)

Civil Status	San Carlos City		Cadiz City	
	Baseline	Endline	Baseline	Endline
Single/Never Married	13.0	12.1	24.8	19.4
Legally Married	76.5	84.7	66.9	77.1
Living Together	7.6	2.3	5.8	0.9
Separated/Divorced	1.5	0.9	1.4	2.6
Widowed	1.4	0.0	1.0	0.0
Total MWRA	87.0	87.9	75.2	80.6
Total WRA	100.0	100.0	100.0	100.0
No. of WRA	793	817	773	764
Pearson Chi-Square	38.9***		48.7***	
Degrees of freedom	4		4	

***p<.001

Family Planning

The majority of women in both cities expressed a desire to have no more children (see Table 23). San Carlos showed a significant decline in the proportion of women who reported that they do not want another child, while a slight increase was recorded in the control area of Cadiz over the same period.

Table 23. Distribution of Women by Reproductive Intention, San Carlos and Cadiz Cities (Percent)

Do you want to have another child?	San Carlos		Cadiz	
	Baseline	Endline	Baseline	Endline
Yes	14.6	18.2	15.7	15.8
No	64.1	55.1	52.9	54.7
Don't know	0.0	6.1	0.0	1.7
NA (Currently Pregnant)	21.3	20.6	31.4	27.7
Total	100.0	100.0	100.0	100.0
N	793	817	773	764
Pearson Chi-Square	57.3***		15.2***	
Degrees of freedom	3		3	

Accordingly, San Carlos City had a higher proportion of women using family planning methods than the control site during both the baseline and endline surveys (see Table 24). The family planning use rate for all methods in the experiment site is higher than the CBMIS-obtained rate, which was 47.5 percent. This is almost equal the rate initially obtained from the control area in Cadiz City.

The contraceptive prevalence rates (CPRs) for modern and all methods in San Carlos City seem to have declined slightly over the study period. In contrast, the CPRs for modern methods in Cadiz City appear to have increased, while CPRs for all methods declined. None of these patterns, however, were statistically significant, implying that the MGP has not resulted in any marked change in CPR indicators. This may also indicate that the evaluation period was too short to reveal changes in the indicators,

including some differences in the basic features of the LGU health system (such as the absolute budget differences and personnel) of the program sites compared to the control sites, which may help explain some of these results.

Table 24. Contraceptive Prevalence Rates (CPRs) and Z-scores for Statistical Comparisons, San Carlos and Cadiz (Percent)

	San Carlos City		Cadiz City	
	Baseline	Endline	Baseline	Endline
CPRs	(A)	(B)	(C)	(D)
Modern methods				
MWRA	42.8	34.3	29.9	30.4
WRA	37.5	30.1	22.6	24.5
All Methods				
MWRA	58.1	47.1	46.6	43.8
WRA	50.9	41.4	35.2	35.3
TEST COMPARISONS	(C) - (A)	(D) - (B)	(D) - (C)	(B) - (A)
Modern methods				
MWRA	-1.49	-0.46	0.05	-0.93
WRA	-1.63	-0.64	0.22	-0.77
All Methods				
MWRA	-1.29	-0.36	-0.33	-1.18
WRA	-1.61	-0.62	0.02	-0.96

San Carlos and Cadiz both had significantly higher proportions of modern family planning method users than traditional method users. There were, however, significant differences in the distribution of methods used before and after the study in both sites (see Table 25). Among modern method users in San Carlos, more opted for the pill and injection at the end of the study period. For Cadiz, the proportion of IUD and condom users increased modestly.

Maternal Health

San Carlos City exhibited high Tetanus Toxoid immunization coverage compared to the control site in Cadiz City at the start of the observation (see Table 26). Immunization rates for pregnant women and mothers with children under 5 years old are even higher, which may partly explain the decline over the study period. Surprisingly, the control site recorded a markedly higher TT2+ rate at the end of the evaluation period than the interventions site of San Carlos. The 1999 change to Department of Health guidelines for city health office immunization reporting may help explain the increase in the TT2+ rate in Cadiz. Included in the 1999 midwives' accomplishment report were statistics on pregnant women who visited the health centers for prenatal check-ups and completed their TT shots. These women were not counted in 1998. Another possible explanation is the Department of Health guideline assuring the safety of TT shots anytime during pregnancy, which assured women that TT is not an abortifacient.

Table 25. Distribution of Users of Family Planning Methods, San Carlos and Cadiz Cities (Percent)

Family Planning Method	San Carlos City				Cadiz City			
	Baseline		Endline		Baseline		Endline	
	N	%	N	%	N	%	N	%
Modern Methods	297	73.5	246	72.8	176	64.7	187	69.3
Pill	149	36.9	128	37.9	85	31.3	76	28.1
IUD	58	14.4	47	13.9	40	14.7	58	21.5
Injections	31	7.7	36	10.7	13	4.8	10	3.7
Condom	23	5.7	13	3.8	7	2.6	14	5.2
Ligation	32	7.9	21	6.2	29	10.7	29	10.7
Vasectomy	4	1.0	1	0.3	1	0.4	-	-
Diaphragm	-	0.0	-	0.0	1	0.4	-	-
Traditional Methods	107	26.5	92	27.2	96	35.3	83	30.7
Calendar/Rhythm/ Periodic Abstinence	89	22.0	62	18.3	81	29.8	64	23.7
Mucus/Billing/ Ovulation	1	0.2	-	-	1	0.4	-	-
LAM	1	0.2	-	-	-	-	-	-
Withdrawal	16	4.0	18	5.3	12	4.4	14	5.2
NFP	-	-	10	3.0	-	-	3	1.1
Herbal Medicine	-	-	1	0.3	-	-	-	-
Others	-	-	1	0.3	2	0.7	2	0.7
Total FP Users	404	100.0	338	100.0	272	100.0	270	100.0
Pearson Chi-Square	23.2***				13.7***			
Degrees of freedom	12				12			

Table 26. Tetanus Toxoid Immunizations, San Carlos and Cadiz Cities

Classification of Women	San Carlos City		Cadiz City	
	Baseline	Endline	Baseline	Endline
TT RATES	(A)	(B)	(C)	(D)
WRA	84.0	82.9	69.2	75.9
MWRA	89.2	93.3	^a	97.4
MWRA with children less than 5 years (TT2+ rate)	92.6	81.0	^a	86.8
TEST COMPARISONS	(C) - (A)	(D) - (B)	(D) - (C)	(B) - (A)
WRA	-1.80	-0.9	0.8	-0.2
MWRA	^a	4.2	^a	3.3
MWRA with children less than 5 years (TT2+ rate)	^a	3.6 ***	^a	-8.2 ***

***p<.001

^aThere were not enough cases as a basis for calculation.

Child Survival

There were 761 children covered by the San Carlos City baseline survey and 656 by the Cadiz City survey. The endline surveys included 943 and 725 children of MWRA in the two cities, respectively. The age distribution of the children is shown in Table 27. For

both study sites, the children in the post-intervention survey were significantly older than their counterparts in the baseline survey.

Table 27. Distribution of Children by Age (in months) , San Carlos and Cadiz Cities (Percent)

Age (in months)	San Carlos		Cadiz	
	Baseline	Endline	Baseline	Endline
0-2	4.3	4.7	5.0	4.6
3-5	3.0	3.3	5.0	3.2
6-11	7.9	6.8	6.9	5.9
12-23	15.4	13.9	15.7	13.9
24-35	17.2	12.9	15.7	13.8
36-47	17.1	14.4	15.9	17.5
48-59	16.4	15.2	19.2	13.8
60-71	17.9	15.0	16.2	15.0
71-84	0.8	13.9	0.5	12.3
Total	100.0	100.0	100.0	100.0
N	761	943	656	725
Pearson Chi-Square	101.2***		84.4***	
Degrees of freedom	8		8	

*** p<.001

The proportion of children immunized in the intervention site of San Carlos decreased from 92.1 to 89.5 percent. The proportion of immunized children in Cadiz, however, remained consistent during both surveys at 95 percent. However, the fully immunized children rate in both San Carlos and Cadiz increased, with the intervention site reporting a significantly higher proportion of fully immunized children than the control site (see Table 28). The proportion of fully immunized children was relatively the same in the two areas during the baseline survey.

Table 28. Fully Immunized Children (FIC), San Carlos and Cadiz Cities (Percent)

	San Carlos		Cadiz	
	Baseline	Endline	Baseline	Endline
	(A)	(B)	(C)	(D)
FIC RATES	49.6	73.3	51.5	65.3
	(C) - (A)	(D) - (B)	(D) - (C)	(B) - (A)
TEST COMPARISONS	0.5	-2.3 *	3.9 ***	6.2 ***

*p<.05, ***p<.001

Nutrition Services

The level vitamin A coverage (VAC) in the experiment site of San Carlos City was relatively higher than that of Cadiz City at the start of the observation. This pattern was reversed during the endline survey. As noted earlier, there was an insufficient supply of vitamin A capsules, particularly during the last quarter of 1999. Apparently, this affected

San Carlos more than Cadiz, as a marked increase in the vitamin A coverage rate was recorded in Cadiz.

Table 29. Vitamin A Coverage (VAC), San Carlos and Cadiz Cities (Percent)

	San Carlos		Cadiz	
	Baseline	Endline	Baseline	Endline
	(A)	(B)	(C)	(D)
VAC RATES	90.7	94.9	84.9	96.3
	(C) - (A)	(D) - (B)	(D) - (C)	(B) - (A)
TEST COMPARISONS	-1.2	0.4	2.6 **	1.0

**p<.01

DISCUSSION AND RECOMMENDATIONS

Was the Matching Grants Program effective in improving health services in participating local government units? The comparative data from intervention and control areas in Luzon and Visayas reveal quite varied effects of the Matching Grants Program on health service process and outcome indicators. MGP activities in Taytay resulted in significant improvements in immunization coverage for mothers and children. Tetanus toxoid immunization of mothers and full immunization of children significantly improved in Taytay through MGP activities. Vitamin A coverage was also higher in the intervention area. There was no striking change in family planning use rates attributable to the MGP initiative, however, it is noted that about three of every five family planning users used modern methods, although further expansion remains to be seen. These results suggest that children in Taytay benefited more from MGP activities than their mothers. Effects of the Matching Grants Program in San Carlos were not as cogent as in Taytay. There were no remarkable changes in contraceptive prevalence or vitamin A coverage rates attributable to the MGP. The VAC in San Carlos is at near universal level, and more than three of every five family planning users in the city are modern method users. The post-intervention modern method CPR in San Carlos City (34.3%) is still higher than the 27 percent recorded in the 1998 NDHS, and very close to the Department of Health and the MGP local government unit performance program's goals of 35 and 36 percent, respectively.

FIC rates in both the intervention site of San Carlos and the control area of Cadiz increased during the study period, although results regarding the MGP's effect on tetanus toxoid immunization coverage were not as clear.

These results can perhaps be explained by the fact that the evaluation period was too short to be able to discern any significant changes in the indicators used, particularly CPR for family planning. It may be noted that several activities that were planned in the MGP sites were not implemented. Furthermore, the funding allocation for health was certainly lower in the intervention sites in the beginning of the project, hence, the level of commitment to health services may not be comparable with the comparison sites. This issue needs to be studied more carefully, given that the choice of comparison sites was quite limited by the constraints posed by the program early in the selection of study sites.

Similarly, the irregular logistic and distributional problems encountered in the program sites during the evaluation period need to be addressed. In any case, these problems are outside the control of local government, given that these are still centrally-controlled activities.

The policy and program implications of these evaluation findings are found in an accompanying report.

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